The impact of different approaches to higher education provision in increasing access, quality and completion for students in developing countries

Protocol written by Megan Clifford, Dr. Trey Miller, Dr. Cathy Stasz, Cecile Sam, Dr. Krishna Kumar at the RAND Corporation and the University of Southern California

PROTOCOL

This protocol should be cited as: Clifford, M., Miller, T., Stasz, C., Sam, C., Kumar, K. (2012) *The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries: a systematic review*. Protocol. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London

Contents

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

1. Background

1.1 Aims and rationale for review

Demand for higher education has risen rapidly in recent years. In 2009, there were nearly 153 million students enrolled in universities around the world, representing an increase of over 50 percent in just nine years (Labi, 2009). Notably, a large portion of this growth has been concentrated in the developing world, such that today half of students currently enrolled in higher education institutions are from developing countries (Bloom et al., 2000).

Much of the rapid growth in the higher education sectors of developing countries occurred during an era of dwindling government budgets precipitated primarily by the Structural Adjustment Programs imposed by multilateral lending organizations like the World Bank and IMF. In an effort to remain financially solvent, traditional public institutions in developing countries were forced to rely more heavily on *student fees and tuition* as well as the *entrepreneurial activities* of their staff (Lee and Healy 2006; Abeli 2010). However, despite these efforts to boost funds, it is widely held that *quality in the public sector significantly declined* during this era.

Despite limited resources for public higher education, governments and institutions developed a number of mechanisms to maintain access to higher education. Specific mechanisms include *need-based scholarships and fee policies, large-scale student loan programs, and scholarships for students studying both domestically and abroad* (Abeli 2010, Lee and Healy 2006).

Increases in student fees and decreases in quality paved the way for the private sector to enter the market for higher education in developing countries. A number of arrangements emerged including *public-private partnerships, distance or virtual learning, cross-border provision, and consortia or partnerships with institutions from the North*. During this era*, private and for-profit* institutions also rapidly expanded across the developing world. Scholars have referred to this expansion of primarily Northern institutions into the developing world as the *"Era of Internationalization* (Lee and Healy 2006, Abeli 2010, Miranda 2008)*."*

Recently, there has been a resurgence in support for higher education as a crucial tool for development. It is becoming increasingly recognized that a robust higher education sector is needed to *prevent brain drain and develop tomorrow's leaders and innovators. Domestic budgets for higher education have increased* across the developing world, and there is renewed support for expanding access to higher education by *lowering or eliminating student fees*. Moreover, there is *renewed support from traditional donor agencies* like USAID, DFID, AusAid, Nuffic, and NORAD. These institutions are increasingly investing in programs to promote access and increase quality (Creed et al 2012). *Specific programs for increasing access include scholarships, training courses, distance learning initiatives, and expansion of institutions in underserved areas* (Creed et al 2012). Programs aimed primarily at increasing quality include the sponsorship of *consortia and networks with Northern institutions, and institutional development and capacity building programs* (Creed et al 2012).

Juxtaposed upon the complex higher education landscape in developing countries is an equally *complex set of gender issues* that vary considerably over time and

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

across regions. Fostered by a complex web of cultural, psychological, economic, historical, and political factors, *gender imbalance in higher education* is widespread across the developing world (Tefferra and Altbach 2004). In many cases, gender imbalances are *magnified at higher quality and public institutions* (Mama 2003). A number of governments and institutions have developed programs and policies specifically to address gender issues. Several African countries including Ethiopia, Tanzania, Uganda, Zimbabwe, and Malawi have instituted explicit *gender based affirmative action policies*, many of which operate through the cutoff score for admission to public universities (Tefferra and Altbach 2004). Others have instituted *gender-based scholarships and stipends* in order to induce females to enrol in college. Finally some have developed specific policies targeting female issues, such as *programs targeting gender-based violence* or the *readmission of female students after pregnancy* (Masanja 2010).

Despite gains in enrolment shares for females across the developing world, there are substantial *gender inequities within institutions* as well. For example, females are much less likely to enrol in *math, science and business*, and more likely to enrol in teaching and nursing. There are also significant gender imbalances on *university faculties* (Mama 2003). In some cases, governments and institutions have instituted *affirmative action and scholarship programs engineered to drive females into traditionally male dominated fields* (Masanja 2010).

This systematic review aims to synthesize the evidence on the effectiveness of various approaches to higher education provision in increasing access, quality and completion for students in developing countries. Given the complex nature of higher education programs and policies that often operate at the national or system level, much of the research on higher education provision and programs in developing countries is qualitative. However, more recently, a number of quantitative impact evaluations of particular programs and policies have been conducted. Given the large number of studies that employ a diverse set of methods to explore various aspects of higher education provision, this systematic review incorporates rigorous criteria for the inclusion of papers (for details on the methodological approach see Section 4 of this protocol: Methods used in the review).

The aim is to review synthesize the evidence on the question of interest to this study in a manner that ensures that the findings are robust and useful to policymakers, university leaders, government officials, aid agencies, and others in identifying proven and promising strategies for improving higher education outcomes in contexts that are similar to their own. The challenge for this study will be to identify the evidence that most robustly and appropriately addresses questions regarding the effectiveness of different approaches to higher education provision in increasing access, quality and completion for students in developing countries and examine how these outcomes differ by student gender[1].

1.2 Definitional and conceptual issues

The goal of the systematic review is to synthesize research findings on the effectiveness of different approaches to higher education provision in increasing access, quality and completion for students in developing countries by gender. In

---

[1] For the purposes of our study, we will use the IMF classification for developing countries (World Economic Outlook, 2010).

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

this section, we define the concepts of *"approaches to higher education provision," access, quality, completion, and developing countries*. Due to the key role of gender in higher education, we discuss *gender issues* in detail, we synthesize all studies by gender, and we include a number of gender specific outcomes in our study.

We measure *access* using *enrolment rates or rates of degree attainment* within the general population, and we consider measures of *access for marginalized groups*, including but not limited to *class, income and gender*. Following Astin (1985) and others, we define *quality* using a *student perspective*, and we use *student-centered performance indicators* as measures of quality. Note that our *definition of quality subsumes completion*, as institutions do not provide quality unless they drive students to completion.

In categorising approaches to higher education provision, we distinguish between *"methods of provision" and "policies."* We define a "method of provision" as the primary means by which an institution is governed, while we define a "policy," as a specific intervention that is designed by governments, systems, institutions, aid agencies, and / or donors to achieve some outcome. For the purposes of this review, we limit our scope to policies that are designed to target access, quality, or gender specific issues.

1.2.1 Access

Access to higher education is commonly defined as "the ability of people from all backgrounds to access higher education on a reasonably equal basis" (Usher and Medow, 2010; Wang, 2011). This definition is comprehensive in scope and implies that students of all backgrounds must not only be "reasonably" able to take advantage of educational opportunities, but must be adequately prepared and equipped to do so as well in order for the system to be considered "accessible." To this end, scholars have noted several imbalances in the opportunity of individuals to access opportunity based on geographical region, rural versus urban environment, social class, type of school, gender and ethnicity (Fields, 1980). Other scholars have focused on various issues that make higher education impractical or overly burdensome to access including inadequate IT capabilities, facilities, and political instability (Bunoti, 2011).

Often at the forefront of access issues, however, have been those pertaining to the ability of students from traditionally marginalised groups such as women, students from low socioeconomic backgrounds, and students from rural or disadvantaged regions to finance their education (Birdsall, 1996; Buchmann and Hannum, 2001, King, 1997, Psacharopoulos, 1986). As higher education budgets have declined across the developing world, so have traditional policies of zero student fees and generous living stipends. While public institutions in developing countries continue to push for universal access, their ability to meet that goal has significantly diminished. They now use a mix of need-based scholarships and student loans to promote access for marginalized students. While private sector alternatives have filled the void in some respects, it is unclear whether all qualified students in the developing world have access to quality higher education.

While we measure access in terms of *enrolment rates and rates of degree attainment*, we recognize that access is intimately linked to *class, income, gender, and other factors*. We thus consider enrolment and degree completion rates by class, income, and gender. Through the course of our systematic review,

we anticipate uncovering other relevant factors that differentiate access, and we will include enrolment and degree attainment rates by those factors as measures of access. Finally, where possible, we will also consider statistics about the number or percentage of students from who **meet admission and/or ability to pay criteria** as measures of access.

1.2.2 Quality

A key goal of this systematic review is to synthesize research findings on the impacts of methods of higher education provision and policies on **quality for students in developing countries**. Quality in higher education is relative to a stakeholder perspective, and may differ for students, academics, policymakers, employers, faculty, the general public, and other groups. For example, quality to the government sector may be tantamount to efficiency: do institutions produce graduates and research efficiently, and do they provide a net return on a social investment? On the other hand, quality to a student must consider the quality of instruction and resources he or she is provided, as well as the likelihood that he or she will find employment in his or her chosen field.

A number of scholars and practitioners have noted the prime importance of the student perspective in evaluations of institutional performance (Tam 2001). Quoting Alexander Astin:

> Its basic premise is that true excellence lies in the institution's ability to affect its students…to make a positive difference in their lives. The most excellent institutions are…those that have the greatest impact…on the student's knowledge and personal development. (Astin, 1985, pp. 60, 61)

Given the prime importance placed upon the student perspective in the literature, as well as the focus of our systematic review question on "quality for **students** in developing countries," we will define quality according to the student perspective. As such, we will focus on **student-focused key performance indicators**. These include but are not limited to **quality of instruction and resources, student-faculty ratios, student satisfaction, completion rates for degrees, certificates and other programs, post graduate employment and earnings, and transitions to further education including graduate degrees**. Where available, we will also focus on **value-added measures** of student learning. Note that this **definition of quality subsumes completion**; an institution is not high quality unless it drives students through to completion.

Finally, it is important to recognize that quality is intimately linked to access. In many cases in the developing world, marginalized students are the most likely to attend relatively low cost higher education providers such as for-profit institutions, vocational and training programs, and virtual or distance learning-based platforms; where quality is often lacking. If these institutions effectively increase access to low quality education, these programs may or may not be a net benefit to students, and may in fact be contributing to inequality. A fundamental goal of this systematic review will be to disentangle the effects of methods of provision and policies on access and quality in an effort to weigh in on the overall impact of these programs.

1.2.3 Gender Issues

Fostered by a complex web of cultural, psychological, economic, historical, and political factors, *gender imbalance in higher education* is widespread across the developing world (Tefferra and Altbach 2004). In many cases, gender imbalances are *magnified at higher quality and public institutions*. There are substantial *gender inequities within institutions* as well. For example, females are much less likely to enrol in *math, science and business*, and more likely to enrol in teaching and nursing. There are also significant gender imbalances on *university faculties*. Other major concerns include issues of *gender-based violence* and *widespread sexual discrimination* in some developing countries (Mama 2003).

Given the complex gender issues in higher education that differ considerably over time and across developing countries, wherever possible, we will *synthesize access and quality outcomes by gender*. We will also examine the gender-related indicators and outcomes including but not limited to: *share of females on institution faculties, incidences of gender-based violence, and sexual discrimination*. Over the course of the systematic review, we anticipate uncovering other relevant gender-specific outcomes, which we will incorporate into our review.

1.2.4 Developing Countries

There are several organizations that classify countries according to their level of economic development. For the purposes of this systematic review, we restrict attention to research conducted on "*emerging and developing countries*," as defined in the *World Economic Outlook (WEO)*, which is published by the *International Monetary Fund*. The WEO uses three main categories to place countries within the "emerging and developing" category, including *per capita income, export diversification, and degree of integration within the global financial system*. Note that the resource rich countries of the Middle East generally fall within the "emerging and developing" category because of their lack of export diversification. Finally, classification is made based on pooled data over several years, to avoid reclassification based on year-to-year fluctuations.

In order to better focus the review on those countries most relevant to AusAID's mission, namely "to help people overcome poverty", we exclude from the list of emerging and developing countries those classified as high-income countries by the World Bank. This eliminates following countries from our analysis: The Bahamas, Bahrain, Barbados, Trinidad and Tobago, Croatia, Equatorial Guinea, Hungary, Kuwait, Oman, Poland, Qatar, Saudi Arabia, and United Arab Emirates.

A list of low to high-middle income countries classified as "emerging and developing" by the WEO and hence included in the review is given in the LMIC Filters in Appendix 4. Finally, where ever possible, we will synthesize findings by region and per capita income.

1.2.5 Higher Education Policies

Governments, donor agencies, and higher education systems and institutions develop policies to address specific goals and aims. For the purposes of this review, we are interested in policies that address *access, quality, or gender-specific issues*. In our systematic review, we will include all policies that address at least one of these outcomes and have a sufficient research base that meets the

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

quality standards set for this review to merit conclusion. A non-exhaustive list of policies that potentially meet these categories (along with the relevant outcomes they are likely to impact) includes:

- Access
    - stipends
    - scholarships
    - student loans
    - opening institutions or outreach offices in deprived areas
- Quality
    - curriculum development
    - peer tutoring and mentoring programs
    - capacity building and consortia
- Gender issues
    - outreach and support offices for female students
    - programs to prevent gender violence
- Access and quality
    - expanding 2-year, certificate, and vocational programs
    - modular and flexible courses
    - internship programs
- Access and gender issues
    - gender-based scholarships
    - policies to reintegrate females post-pregnancy
- Access, quality and gender issues
    - affirmative action
    - all female classes and institutions

Higher education financing plays an important role in determining the level of access to and quality of higher education institutions in developing countries. Accordingly, the pressure over the last decade or so to expand the revenue base of higher education and shift some of the financial burden of higher education provision from the state to individual students has generated significant concern over the equity of educational provision in developing countries. Governments have responded to this dilemma in many different ways, the success of which often varies according to the country's prevailing socioeconomic conditions.

While waning education budgets across the developing world have mitigated the ability of several countries to provide students with living *stipends*, several countries nonetheless still offer stipends to some students in order to provide more equal access to higher education. In Ukraine, for example, the government provides two types of student stipends: academic and social. Academic stipends are paid to all "budget students" who meet minimum course requirements while social stipends are paid to disabled students as well as students from certain social-economic backgrounds (Lkhamsuren, Dromimina-Voloc, and Kimmie, 2009).

Notably, the prevalence of stipends varies geographically. In Africa, for example, many countries still pay stipends and living allowances to students. Accordingly, the students themselves often provide no more than token support for their education, although this has been changing recently. One notable exception to this is Lesotho where much of the income for the University of Lesotho comes from student fees. In order to pay for their education, most students must therefore take out student loans (Teferra, 2004).

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Approximately sixty developed and developing countries have established *student loan programs* to finance higher education (Bollag, 2001). Such programs aim to improve access and equity for the poor or otherwise marginalized groups, generate revenue for the universities via cost sharing, and motivate students to work harder as they must ultimately repay the cost of their education. Specialized loan programs, furthermore, often support specific governmental policies that incentivize the study of targeted fields.

Among loan programs, the government's level of participation can vary from a *fully public system* to one serviced by the *private sector* but guaranteed by the government. In implementing loan programs, the government also makes the choice of whether to *subsidize* the loans or allow market forces to determine interest rates. They must also decide whether to grant *sector-blind aid*, allowing government resources to be used for study in both private and public institutions, or to restrict the use of government funds to study in public universities only.

Governments and institutions also use *fee policy* to promote access and equity in higher education. For example, many governments grant public institutions the authority to charge different tuition and fees to students with different economic backgrounds and/or international students. In Ghana, for example, the government gave public universities the right to reserve 5% of their yearly admissions slots for international students and another 5% for full-fee paying domestic students (Teferra and Knight, 2008). Governments and institutions may also use **public grants or scholarships** to promote access to higher education for high-achieving and/or low-income students.

Other policies to promote access operate through targeted outreach efforts for traditionally underserved groups. These include establishing *campuses or outreach offices in rural or otherwise underserved areas, and explicit affirmative action policies for marginalized groups such as females*. Expanding access to rural areas is seen as particularly important in India, where the gross enrollment ratio of college-aged individuals is around 9% overall, but is 25% in urban areas. While growth of higher education enrollment has been particularly high in rural India in recent years, much of the growth has been in private and for-profit institutions, which is seen as problematic given the lack of quality assurance and monitoring mechanisms currently in place in India. Many have argued for the establishment of explicit affirmative action policies to attract rural students to India's well-established urban institutions (Agarwal 2006).

In an effort to increase access for traditionally underserved groups, governments and aid agencies have also experimented with expanding offerings in programs that are attractive to those students, including *two-year degree, certificate, vocational, and other sub-baccalaurate programs*. Similarly, governments and institutions have worked to make programs more flexible so that students can work and while they are enrolled. Particular examples include *modular and flexible courses*, as well as *virtual and distance learning courses*. A large share of the growth in higher education enrollment in the developing world has been through such programs in recent years.

Low-levels of funding for higher education coupled with increased student enrolment in developing countries have likewise raised significant concerns regarding the *quality* of educational institutions. *Capacity building* brings various stakeholders together to bridge the gap between supply and demand in developing

countries and build these countries' domestic capacity to provide high quality tertiary education.

Such capacity building takes place on both the individual and institutional levels. On the individual level, it involves the establishment of channels for stakeholders to build and improve their knowledge and skills. To this end, organizations such as the Institute of International Education and the Ibero-American Network for Accreditation of the Quality of Higher Education (RIACES) offer training programs to place and monitor students, faculty, and professionals in various degree and non-degree training programmes. The United Nations Development Programme (UNDP) also has a capacity-building initiative that provides fellowships for government officials and academic leaders to advance their knowledge in science, technology and development through various study abroad programs.

At the institutional level, capacity building focuses on improving and supporting existing institutions. This includes the creation of robust networks of experts who work together to assess the needs and capabilities of; provide technical assistance to; and share best practices with higher education institutions in developing countries. Through workshops, study tours, conferences, forums, targeted training seminars, and research, participating institutions forge linkages aimed at both enhancing the quality of higher education and building domestic capacity. With the support of various aid agencies, for example, several universities in Britain and the United States collaborated with new universities in Africa in the 1950s and 1960s, exchanging staff and even providing scholarships to enable the participation of staff in such programs. Some more recent programs, furthermore, have focused on more comprehensive national or regional matters such as the establishment of a regional QA system in East Africa.

In some cases, capacity building is formalized with the development of *consortia and networks* which link individual university departments in developing nations to those with similar objectives and interests in high income countries. These associations address regional issues, such as academic quality, support the development of joint research projects, and facilitate the exchange of students and professors.

Consortia also undertake initiatives that build on the distinct aspects and strengths of each institution. For example, the North American Mobility Program (PROMESAN), a joint endeavor of the United States, Canada, and Mexico, has led the way in organizing study programmes with a North American dimension at Mexican, U.S. and Canadian universities (CONAHEC, 2002). Other consortia have also been established in order to meet common goals. In Britain, for instance, DfID sponsors a program called DELPHE, which promotes partnerships between universities and other higher education institutions working jointly on activities linked to the Millennium Development Goals (MDGs) in DfID's priority countries (Creed et al., 2010).

Through consortia partnerships, some universities have also developed transnational *curriculum development* and teaching efforts. Working together, faculty and administrators at partner universities often teach courses, develop curricula, and introduce new learning technologies for internationalizing courses.

At the national level, several *curriculum reforms* measures have also been implemented to enhance the quality of education. In Cambodia for instance, the government recently launched a massive curriculum reform program in order to

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

better align educational programmes with labour market demand. Two of the most notable features of the programme include the introduction of a Foundation Year Study and a credit and transfer system. Such measures are aimed at improving quality by ensuring all students within the system obtain a relatively standardized core education and develop the skills demanded by employers.

Other policies targeting quality include *internship and peer tutoring and mentoring programs*. Such programs help students navigate the higher education system and obtain the knowledge and skills they need to be successful in the job market and be productive citizens. For example, disadvantaged students attending a student-led supplemental instruction program for Circuits, an electrical engineering gate-keeper course, at the University of Witwatersrand in South Africa were shown to score 12.5% higher in the course than disadvantaged students who did not take the supplemental instruction course (McCarthy et al 1997).

In addition to the aforementioned policies to improve access for people of varying socio-economic statuses and ensure quality in the overall system, governments have also implemented various *policies aimed at mitigating gender imbalances* in higher education. In several regions of the world, males still comprise the majority of university students and dominate the fields such as math, science, engineering and business. Such disparities are most pronounced in the Arab world, certain sub-Saharan African countries, and South Asia. In Yemen, for example, only 1% of females enrol in higher education institutions versus 7% of men while in Bangladesh, females make up only 24% of students in public universities and 17% in private universities (Subbarao, 1994).

One way policymakers have tried to close the gender gap is through *affirmative action*. Ghana, Kenya, Uganda, Tanzania, and Zimbabwe, for instance, have all lowered their admission cut-off points for female candidates. Unfortunately, however, despite such policies, low female enrolment in Africa nonetheless persists (Kapur and Crowley, 2008).

Other higher education systems have used financial mechanisms such as *scholarships and grants* to induce women into higher education and in particular, into traditionally male-dominated fields. In May 2001, for example, the Carnegie Corporation gave $1 million to Makerere University of Uganda to fund girls from disadvantaged areas to study science (Hafkin and Taggart, 2001). Finally, some institutions and governments have developed programs targeting gender issues within schools. These include establishing *gender-based outreach offices and support services, female only institutions or course sections, and programs to prevent gender violence*.

Unfortunately, however, the mere provision of funds is not often enough to achieve higher levels of university participation among females. At University of Dar Es Saleem, for example, a large proportion of scholarships made available for women end up being diverted to men because not enough women applied for the funding. When questioned about why they did not pursue the funds, many women cited family responsibilities and child-rearing obligations as two of the primary reasons for not continuing their education (Masanja, 2010). Understanding these gender constraints, as well as other factors that may impede the education of women in developing countries, such as violence or social attitudes towards pregnancy, is therefore also crucial.

1.2.6 Methods of Provision

We define a **method of provision** of higher education as the primary means by which the institution is governed. In this review, we will consider methods of provision that fall under the following categories: **public institutions and systems, private and blended models, and various models for cross-border education**. In our systematic review, we will include all methods of provision that fall under one of these categories and have a sufficient research base of studies that meet the quality standards set for this review to merit conclusion. Particular methods of provision falling under each category include:

- public institutions and systems, including:
  - degree-granting institutions
  - vocational programs, and
  - two year degree and certificate-granting programs,

- private and blended models, including
  - private non-profit institutions,
  - private for-profit institutions, and
  - public-private partnerships,

- cross-border models, including:
  - attending institutions in other countries,
  - consortia, networks, and partnerships,
  - branch campuses on international institutions, and
  - virtual or distance-based learning campuses.

Traditionally, higher education in the developing world has been largely a public sector endeavour. During the Twentieth Century, developing countries rapidly expanded **large public university systems** modelled after traditional Western university systems (Mohamedbhai 2002). These institutions continue to provide tertiary education to a large and relatively diverse number of students in developing countries. Over time, many of these institutions, like the Universidad Autónoma de Mexico in Mexico City, and Peking University and others in China, have come to rival institutions in developed countries. In other cases, **waning budgets** have left public institutions with **relatively poor resources and faculty**.

Importantly, the majority of public institutions in developing countries endeavour to provide universal **access** to higher education. Traditionally, most of these institutions offered higher education programs free of charge, and many offered their students generous **subsidies for food and housing**. Over time, as budgets have waned, many of the subsidies have been reduced or eliminated, and in many cases, public institutions were forced to start charging student fees. Despite the need to shift some of their operating budgets on students, most public institutions maintain a strong focus on access, and have developed **need based scholarships and student loan programs** to ensure access to low income students.

The relatively low funding that many governments in developing countries have provided for tertiary education since the 1980s (Birdsall, 1996) has led to the emergence of alternative forms of provision and financing, as mentioned in section 1.1. One of the most common methods for students in developing countries to earn a college degree is through **cross-border education**. Cross-border education is defined as the movement of individual education courses and programmes across national borders through face-to-face, distance learning models, or a combination

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

thereof. Credits towards a degree can be awarded by the provider in the sending foreign country, by an affiliated domestic partner, or jointly. Specific methods for cross-border education include franchising, twinning, and double or joint degrees (Knight, 2005).

According to the Observatory on Borderless Higher Education, in 2006, more than 2.5 million students pursued tertiary education outside of their home countries, compared to 1.75 million in 1999, representing an increase of 43 percent in seven years. China and India top the list of developing countries with the largest outflow of students, with 1.8 and 1.2 percent of tertiary students studying abroad, respectively. Although the resources required in order to study abroad (e.g., most international students pay their own way) make international education accessible primarily to the more privileged families of a developing country, scholarship and loan programs for the brightest students from developing countries to pursue higher education in well-known universities across the globe are relatively common and increasingly prevalent. Among foreign students pursuing higher education in the United States, for example, those whose primary financial source is a home government or university scholarship increased by 27% in 2009-2010. Government sponsored scholarships for study abroad from countries such as China, furthermore, are also increasing (Fischer, 2010).

One problem with this form of cross-border education is that it contributes to *"brain drain"* as students are likely to remain in the country where they studied to start their careers (Miyagiwa, 1991). Moreover, the benefits of cross-border education fall primarily on the privileged classes.

In more recent years, other forms of cross-border education have emerged in developing countries. In an effort to expand their higher education offerings, many developing countries developed *partnerships and consortia with Northern institutions,* who are establishing branch campuses or other arrangements across the globe. Indonesia, Malaysia, Singapore, the United Arab Emirates, Hong Kong, Vietnam all make significant efforts to encourage foreign academics, programmes and institutions to offer their services in their countries.

A number of *partnerships* among private and public higher education institutions have also arisen. In several South Asian countries, for example, public universities supervise and grant degrees for "affiliated" private colleges which provide the actual instruction. In most countries, such partnerships are voluntary, while in others they are legally mandated. India, for example, has had its own form of private college-public university arrangements for years. Such partnerships also exist in China, Malaysia, Russia, and South Africa (Levy, 2008).

Virtual or distance learning has also expanded given the vast technological advancements in recent years, and is now a major medium of higher education provision in developing countries. In 2006, distance education accounted for 15 percent of all tertiary enrolment around the world (Perkinson, 2006). In many developing countries, where faculty absenteeism and natural disasters or economic crises often disrupt consistent provision of education, virtual education is an option that has substantially expanded access. In Thailand, for example, Information and Communications Technology (ICT) has been recognized as an important vehicle for promoting life-long education, distance, and adult education. Using ICT, the Thai government created the Inter-University Network (UniNet), a high-speed information network linking over 180 national and international universities and

institutions. It also established Thailand Cyber University (TCU), an e-learning network for both degree and non-degree seeking students (Muangkeow, 2007).

By reducing overhead time and monetary costs relative to campus-based education, distance learning provides students constrained by work or familial obligations with more flexibility to access educational resources and learning opportunities. Distance learning may also become a viable option for increasing female access to higher education, especially in countries where absence of secure accommodation is often the primary factor deterring young women from pursuing higher education (King and Hill, 1998).

Finally, another recent trend is the growth in *private and for-profit providers of higher education*. For-profit institutions have recognized opportunities in developing countries and expanded rapidly in recent years. Major players include Laureate Education, the Kaplan University System, and the Whitney International University System. The Apollo Group, which runs U.S.-based University of Phoenix, recently expanded into Mexico and has plans for large-scale international expansion (Kinser 2010). These institutions have also been instrumental in expanding access to traditionally marginalized groups, such as women. In Ethiopia, for example, women accounted for only 16 percent of enrolment in public universities in the 2001/2002 school year, while in 2003/2004, women constituted more than 50 percent of private tertiary institution enrolment (Nwuke, 2007).

In this review, we will adopt a common definition for each of the aforementioned forms of higher education provision as one important criterion for inclusion. Our systematic review protocol will also allow us to identify additional programs and policies that are relevant for review.

1.3 Policy and Practice Background

After years of Post War growth, the public higher education systems in many developing countries started to decline in the 1980s (Didricksson 2008; Abeli 2010). Several factors contributed to the decline. First, the wide imposition of World Bank and IMF Structural Adjustment Programs, which required recipient nations to significantly cut back government spending, led to significant reductions in budgets for higher education. Faced with declining national budgets and strong pressures from the World Bank and IMF to increase primary sector enrolment, developing countries shifted funds away from higher education and towards the primary sector. At the same time, citing concerns that higher education primarily benefited the elite, major donor organizations such as USAID, DFID, NUFFIC, and AusAid, began to shift their funds towards the primary sector where benefits would be more universal (Abeli 2010, Tefferra and Altbach 2004).

Faced with dwindling resources, public higher education institutions and systems developed a number of innovative responses to remain financially solvent. Inevitably, much of the burden was shifted towards students in the form of *fee policy*. The majority of institutions had minimal fees prior to the Structural Adjustment Era, but during the 1980s and 1990s, many began to charge significant fees to students. Many offered *need-based scholarships* to shift the burden towards the students with the highest ability to pay. Others developed large scale *student loan programs* to ensure that all students could have access to public higher education (Palay 2010). In some cases, significant pressure was placed upon institutions to *generate revenue internally* from research grants and product development and licensing.

Despite efforts to recoup some lost revenue from students and entrepreneurial endeavors, most public institutions suffered, and *quality declined*. Policy reports from the era cite wide scale *concerns with the quality of academic staff, facilities, and teaching materials* (Abeli 2010; Tefferra and Altbach 2004).

The lack of funding and decreasing quality opened the door for *private providers* to develop viable and cost effective alternatives to the traditional public higher education sector. Beginning in the 1980s developing countries began formally sponsoring *Public-Private Partnerships (PPPs)* to develop new or expand existing higher education institutions and systems (Abeli 2010; Tefferra and Altbach 2004). At the same time, international *private and for-profit institutions* began to expand rapidly across the developing world. In some cases, institutions established formal *partnerships and consortia* with institutions from the North (Tefferra and Altbach 2004; Knight 2005). Scholars have often referred to this era of higher educational development as the *"Era of Internationalization,"* and the verdict on its success is still yet to be determined (Knight 2005). Moreover, the rapid expansion of the private sector leads to concerns over quality and monitoring, and in recent years, we have witnessed the rapid development of *international accreditation and assessment bodies* for higher education (Pieres and Lemaitre 2008).

In more recent years, developing countries and donor agencies alike have come full circle, again embracing the notion that higher education is fundamental for development (Tafferra and Altbach 2004; Abeli 2010; Creed, Perraton and Waage 2012). Higher education budgets have increased substantially at the same time as donor agencies have renewed their investments in higher education. Specifically, donor agencies have invested heavily in *education and training programs, curriculum development (particularly via distance learning and technology-based mechanisms), scholarship programs, consortia and networks, and institutional development and capacity building* (Creed, Perraton and Waage 2012). A number of these efforts have been formally evaluated by researchers and donor agencies, and the associated reports will be included in this systematic review.

Other *policies have developed to address gender imbalance* and other gender related issues in higher education. These include *gender-based affirmative action policies, scholarships, and stipends*. Some of these programs are meant to increase overall female enrolment, while others are *targeted on enrolment in traditionally male dominated disciplines* like math, science, engineering, and business. Finally, a number of policies have been developed to address specific gender issues, such as *gender violence and reintegration of females after pregnancy* (Masanja 2010).

1.4 Research background

There is a significant body of research on higher education provision and policies in developing countries. Given the complex nature of higher education provision and policies that often operate at the national or system level, much of the research in this area is qualitative, consisting of case studies, interviews, and surveys. However, more recently, a number of quantitative impact evaluations of particular programs and policies have been conducted. There are a number of reviews (non-systematic) of the impact of specific forms of higher education provision (for example, Allen et al., 2004 and Cunningham et al, 1998, and Creed et al 2012). Evidence on the specific question of the differential impact of various forms of

higher education provision on quality, access, completion, and immigration patterns, however, is much more limited.

To our knowledge, there are no systematic reviews of the evidence on the comparative impact of different approaches to higher education provision in increasing access, quality and completion for students in developing countries.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

2. Objectives

This systematic review addresses the question: *How effective are different approaches to higher education provision in increasing access, quality, and completion for students in developing countries? Does this differ by the gender of students?*

This review examines the effects of different methods of higher education provision and higher education policies aimed at improving access, quality, and gender-specific issues in higher education on access to and quality of higher education for students in developing countries.

We define methods of provision as the primary means by which an institution is governed or organized and content is delivered. Examples include public universities and systems, private and for-profit institutions, various forms of cross border education, vocational and technical programs, and virtual or distance learning platforms.

We define policies as interventions implemented by institutions, systems, governments, or aid agencies that are intended to achieve some outcome. We are interested in policies targeting access, quality, and gender-specific issues. We recognize that access, quality, and gender-specific issues are intertwined, and that policies affecting one outcome may also affect another. Examples of policies targeting access include fee policy, need-based scholarships, and student loan programs. Examples of polices aimed at improving quality include capacity-building efforts, consortia and networks, and curriculum development. Examples of policies targeting at ameliorating particular gender issues include gender-based affirmative action policies, gender-based scholarships, and policies aimed at alleviating gender violence.

We measure access in terms of enrolment and rates of degree attainment rates by class, income, gender, and other relevant factors. We also consider numbers of students meeting admission and ability to pay criteria as measures of access. We measure quality using student-centric performance indicators including but not limited to quality of instruction and resources, student-faculty ratios, student satisfaction, completion of degrees, certificates and programs, post graduate employment and earnings, and transitions to further education including graduate degrees. Where available, we will also focus on value-added measures of student learning.

In our analysis, we will examine the extent to which different approaches and policies have differential effects by gender. We will also consider gender-specific outcomes including share of females on faculty, incidents of gender-based violence, and sexual discrimination. Since results may vary considerably by country and gender relations, we will also synthesize findings by region and according to the UN Gender Inequality Index.

3. Review team

Dr. Trey Miller (PhD, Economics, Stanford University) is an Associate Economist at the RAND Corporation specializing in higher education policy. His research primarily uses large administrative databases and quasi-experimental techniques such as regression discontinuity, instrumental variables methods, and propensity score matching to evaluate the impact of programs designed to foster college access and retention as well as labor market success for traditionally underserved students. He recently completed a project for the Bill and Melinda Gates Foundation that used administrative databases to develop quantitative performance metrics for higher education institutions. He is currently the co-principal investigator for a Spencer Foundation-funded research project to assess the impact of policies governing college tuition towards undocumented immigrants on educational attainment of the undocumented. He has also conducted qualitative assessments of private higher education institutions in Abu Dhabi for the Abu Dhabi Education Council.

Dr. Cathleen Stasz (PhD, Education, University of California, Los Angeles) is a Sr. Behavioral Scientist. In thirty years at RAND she has conducted research in a number of areas, including the implementation of advanced computer-based technologies in education, the workplace and the military; education and training for work; and teaching and learning in classrooms and workplaces. Her research has employed quantitative and qualitative research methods, including surveys, focus groups, elite interviews, case studies, and ethnography. She directed a series of studies in the US that focused on new skill needs in the workplace and their implications for education policy and practice, and has numerous publications on this topic. She has been involved in several studies related to K-12 education reform in a number of countries, working in areas such as teacher training and professional development, curriculum development, vocational education, and program evaluation. She recently co-directed a study in Qatar on the relationship between higher education provision and skill demands in the economy. Dr. Stasz is a Research Quality Assurance Manager at RAND, with responsibility for ensuring that research in RAND Education meets quality assurance standards. Dr. Stasz is based in the UK and is also a Research Associate at the Department of Education, University of Oxford.

Ms. Megan Clifford is a Doctoral Fellow at the Pardee RAND Graduate School. She has worked on several projects on higher education and labor topics. Ms. Clifford also has extensive systematic review experience. She has served as a co-author, independent screener, data extractor, and analyst for three systematic reviews prepared for the Agency for Healthcare Research and Quality, a division of the U.S. Department of Human Services, The Center for Medicare and Medicaid Services and the Department of Justice. These large-scale studies reviewed an initial literature base of several thousand articles and included independent article screening, data extraction, and meta-analysis.

Ms. Cecile Sam is a qualitative researcher for the University of Southern California's Center for Higher Education Analysis and a doctoral candidate in Higher Education Policy. Her research interests include organization theory as applied to faculty work in higher education, with a special interest in online/offline communities and ethics. She has authored works on non-tenure track faculty policy, as well as qualitative methods in digital domains.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Dr. Krishna Kumar (PhD, Economics) is a Senior Economist at RAND. He directs Research and Policy in International Development (RAPID) and leads the Rosenfeld Program on Asian Development at the Pardee RAND Graduate School. His research and teaching interests are economic growth and development, human capital accumulation, and technological change. He has studied the role of public policy on Indian entrepreneurship and conducted a comparative analysis of the Indian and Chinese education systems. He has researched the role of economic openness on education and growth, higher education policies in the United States, the effect of tax reform on economic growth, international capital flows, reasons for U.S.–Europe productivity differences, the effect of the Green Revolution on recipient and donor countries, cross-country determinants of firm size, policies to revive the stagnant sub-Saharan African economies, and the role of social capital in economic development. His research has been published in leading journals in economic growth and development and macroeconomics. He teaches development economics at the Pardee RAND Graduate School and global economics at the Fuqua School of Business at Duke University and the Indian School of Business in Hyderabad.

Ms. Roberta Shanman is a research librarian at the RAND Library. The RAND Library acquires, organizes, and provides access to information resources to enable RAND to achieve its research, educational and business goals; provides information retrieval and consulting services to the RAND research community; and contributes to the preservation and dissemination of RAND's intellectual legacy. Through the Library, the RAND research community has access to a wide range of digital and print resources, including 125 online research databases, 30,000 journal titles (almost all available online), 70,000 e-books, and 80,000 print items. Ms. Shanman provides customized research support to RAND researchers by developing search strategies, conducting literature searches, and performing citation management. She has extensive experience in assisting researchers with systematic reviews.

3.1 Project Management Plan

The review team will be led by Dr. Trey Miller, the Project Leader and Lead Quantitative Reviewer. As Project Leader, Dr. Miller is responsible for:

- Ensuring that the review is completed in accordance with the procedures outlined in the protocol,
- Working with AusAid and EPPI Centre to respond to comments on the protocol and draft review,
- Coordinating and reviewing work conducted by other team members,
- Bringing any issues that may affect the ability to complete the project on time and within budget to the notice of AusAid, and
- Providing AusAid with progress reports,
- Ensuring that the project is completed on schedule and within budget[2].

Additionally, as Lead Quantitative Reviewer, Dr. Miller will take primary responsibility for reviewing quantitative studies of higher education policies and programs in developing countries. Dr. Miller will be supported by Ms. Megan Clifford, Assistant Quantitative Reviewer, in these efforts. Dr. Miller will work with Ms. Clifford to fine-tune the protocol and classification procedure during the pilot phase. After the pilot phase, Ms. Clifford will independently review and classify the remaining quantitative studies, consulting with Dr. Miller as needed. Dr. Miller

---

[2] The projected schedule is presented in Section 5. Completing the review in accordance with this schedule will be contingent on receiving feedback from AusAid and EPPI Centre within the specified time. Dr. Miller will track the progress of the project using RAND's internal budget controls to ensure that the project is completed within budget.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

will oversee all of Ms. Clifford's work and serve as a second reviewer to classify studies that fall in a grey area on the coding scheme.

Dr. Cathy Stasz will serve as Lead Qualitative Reviewer. In this role, Dr. Stasz will take primary responsibility for reviewing qualitative studies of higher education policies and programs in developing countries. Dr. Stasz will be supported by Ms. Cecile Sam, Assistant Qualitative Reviewer, in these efforts. Dr. Stasz will work with Ms. Sam to fine-tune the protocol and classification procedure during the pilot phase. After the pilot phase, Ms. Sam will independently review and classify the remaining qualitative studies, consulting with Dr. Stasz as needed. Dr. Stasz will oversee all of Ms. Sam's work and serve as a second reviewer to classify studies that fall in a grey area on the coding scheme.

After all studies have been reviewed, Drs. Miller and Stasz, Ms. Clifford and Ms. Sam will work together to synthesize findings and come to balanced conclusions about the state of research on higher education policies and programs in developing countries. These team members will share responsibility for writing the final report and policy brief.

Dr. Krishna Kumar will serve as Senior Project Consultant. Dr. Kumar will consult with the team on the protocol and review studies where team members are at odds with respect to coding. He will also review and comment on the final report and policy brief.

Ms. Roberta Shanman will serve as the Project Librarian. She will perform the initial search for literature using our search parameters. Wherever possible, she will provide the team with electronic versions of papers and reports. Where electronic versions are not available, she will obtain print versions from the RAND library and other institutions.

All team members have sufficient time available to meet the deadlines outlined in the schedule. Should there be any necessity for personnel changes during this project, the Project Leader will select appropriate replacements and will inform AusAid as soon as possible.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

4. Methods used in the review

4.1 User involvement

RAND researchers have established networks both with practitioners working on various higher education provision efforts in Latin America, Asia and Africa, and with donors and policy-makers in donor and developing countries (including USAID, World Bank, the European Commission, and several local governments). This network, together with that of AusAID, will serve as source of relevant background studies and a launching pad for the dissemination of review findings. We will kick off our project by sending a project description to key institutions, government agencies and NGOs within RAND's network including the World Bank, UNESCO, the Inter-American Development Bank, and USAID. We will ask these key users and stakeholders for input and relevant grey literature. Moreover, since many of the evaluations of donor-funded programs are not publicly available, we will request access to all unpublished evaluations and reports of donor funded higher education initiatives such as scholarships, capacity-building efforts, and support for consortia and networks.

The team will prepare a short policy brief which will highlight key findings, conclusions, and implications of the study for policy-makers and practitioners. Clearly summarising and disseminating the evidence in this format to policy-makers and practitioners will ensure that those responsible for designing and implementing international higher education initiatives have access to relevant findings. RAND will use its existing channels and mechanisms to disseminate the work to key users and stakeholders.

This review will also provide a timely contribution to academic debates by identifying what questions remain unanswered and have little empirical support. To this end, the research team will prepare a paper for publication in a peer-reviewed academic journal with an audience beyond the research and academic communities. Finally, the findings of the study will be available to all audiences through RAND's online resources.

4.2 Identifying and describing studies

4.2.1 Defining relevant studies: inclusion and exclusion criteria

Preliminary reviews of the literature indicate that there is considerable variation both in methodological approaches to studying the impacts of different forms of higher education provision, and in the specific substantive focus of the research. Since we expect to uncover a limited number of experimental, quasi-experimental and regression-based studies on our research topic, our initial inclusion criteria will be broad, including all research studies testing the effectiveness of methods of higher education provision and policies to increase access to and quality in higher education. Research studies are defined as those that provide empirical data on the evaluation of an intervention. Eligible for inclusion in the review will be all studies that gather empirical data, such as surveys, before-after studies, controlled clinical trials or randomised controlled trials for effectiveness studies and cost-effectiveness studies such as cost-benefit analyses, cost-minimisation analyses or cost-utility analyses. Note that this definition includes largely qualitative research like case studies of a policy based primarily on interviews and focus groups so long

as some quantitative data on a measure of access or quality is brought to bear on the issue. Qualitative data will be used only to explain the findings of the quantitative assessments of access. For this reason, studies presenting only qualitative research are beyond the scope of this review.

While we will include studies published in languages other than English in our list of citations, we will exclude them from further review[3]. We will consider studies examining the methods of higher education provision outlined in section 1.2.5 as well as the policies to promote access, ensure quality, and address gender issues outlined in section 1.2.6 set in or involving students from developing countries. Opinion pieces and literature reviews will also be excluded from the review and will only be used to identify further research. Pure descriptions of a method of provision or policy without any kind of user evaluation are also not eligible for inclusion in the review.

In summary, only studies meeting the following criteria will be included in the review:

Study design: Research studies that present quantitative assessments of access.

Intervention: Methods of higher education provision or policies to Increase access, quality, and or gender-specific issues as outlined in sections 1.2.5 and 1.2.6, respectively.

Date: There are no restrictions on the date, but only studies published after 1990 will be reviewed.

Language: There are no restrictions on the language, but only those published in English will be reviewed.

Location: Only studies set in developing countries will be included.

Outcome: We will consider all outcomes that fall within the our definitions for access, quality, and gender-specific outcomes as outlined in sections 1.2.1, 1.2.2, and 1.2.3.

A second stage of screening may need to be undertaken if a large number of studies are found to meet the inclusion criteria listed above.

Interventions

The review includes studies focusing on any *higher education policy designed to broaden access, ensure quality and promote gender equity. A non-exhaustive list of policies includes*:

- Access
  - stipends
  - scholarships
  - student loans
  - opening institutions or outreach offices in deprived areas

---

[3] This will help to prevent language bias as research has shown that studies with statistically significant results are more likely to be published in English language publications (Moher, Fortin, Jadad, Juni, Klassen et al., 1996).

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

- Quality
    - capacity building and consortia
    - curriculum development
    - peer tutoring and mentoring programs
- Gender issues
    - outreach and support offices for female students
    - programs to prevent gender violence
- Access and quality
    - expanding 2-year, certificate, and vocational programs
    - modular and flexible courses
    - internship programs
- Access and gender issues
    - gender-based scholarships
    - policies to reintegrate females post-pregnancy
- Access, quality and gender issues
    - affirmative action
    - all female classes and institutions

The review will also include studies focusing on the impact of specific *methods of higher education provision* set in or involving students from developing countries. A non-exhaustive list with example providers includes:

- public institutions and systems, including:
    - degree-granting institutions (University of Dar es Salaam)
    - vocational programs (Nakawa Vocational Training Institue, Uganda)
    - two year degree and certificate-granting programs,

- private and blended models, including
    - private non-profit institutions (Instituto Tecnologico Autonomo de Mexico),
    - private for-profit institutions (University AMA Computer University, Anhembi Morumbi University)
    - public-private partnerships (Tribhuvan University),

- cross-border models, including:
    - attending institutions in other countries,
    - consortia, networks, and partnerships (Universitas 21; World University Network),
    - branch campuses of international institutions (New York University, Accra; Texas A&M University, Qatar)
    - virtual or distance-based learning campuses (Indira Gandhi National Open University, India).

4.2.2 Identification of potential studies: Search strategy

Reports will be identified through searches in two phases. The first phase consists of searches in the following sources:

- Subscription and non-subscription databases:
    - Academic Search Elite
    - AGRICOLA
    - Article First
    - IDEAS search engine

- o Contemporary Women's Issues
- o EconLit
- o Education Abstracts
- o ERIC
- o JSTOR
- o PsycInfo
- o WorldCat
- o World Bank e-Library
- o International Initiative for Impact Evaluation
- o Source OECD[4]
- o Dissertations Abstracts Database (includes U.S., Canadian, British and some European dissertations)
- o Campbell Collaboration
- o International Bibliography of Social Science (IBSS)
- o SocAbs
- o Applied Social Sciences Index and Abstracts (ASSIA)
- o British Education Index
- o Australian Education Index
- Regional Sources
  - o African Journals Online (AJOL)
  - o Bangladesh Journals Online (BanglaJOL)
  - o Latin America Journals Online (LAMJOL)
  - o Mongolia Journals Online (MongliaJOL)
  - o Nepal Journals Online (NepJOL)
  - o Philippines Journals Online (PhilJOL)
  - o Sri Lanka Journals Online (SLJOL)
  - o Vietnam Journals Online (VJOL)
  - o AfricaBib
  - o African Studies Online Abstracts (ASA)
  - o Catalogue of the African Studies in Lieden
  - o Publicaciones y Revistas Sociales y Humanísticas (PRISMA)
  - o Scielo
  - o Latindex
- Google Scholar[5];
- Individual journals[6]:
  - o American Economic Review (Business Source Premier, EconLit)
  - o Journal of Political Economy (Business Source Premier)
  - o Quarterly Journal of Economics (Business Source Premier, EconLit)
  - o Economics of Education Review (EconLIt, ERIC)
  - o International Journal of Education Development (Education Abstracts)
  - o Journal of Development Economics (Business Source Premier, Social Sciences Abstracts)
  - o World Development (EconLit, Social Sciences Abstracts)
  - o World Bank Economic Review (EconLit)
  - o Development Policy Review (EconLit)

---

[4] RAND has an extensive on-line library with access to these and hundreds of other databases, as well as to over one thousand individual peer-review journals. In addition, RAND librarians and researchers have access to a range of print libraries, including those at Cambridge University, and Georgetown University and George Washington University in Washington DC.

[5] The Google Scholar search will be conducted using Google Advanced Scholar Search. Whilst the RAND team believe that it is extremely useful to use this search engine it is important to search so that the number of hits is manageable. We will search articles published after 1990, and in the following subject areas available through this search engine: "Business, administration, finance and economics" and "Social sciences, arts and humanities". We will review only the first 100 hits when sorted by relevance.

[6] The databases the journals can be found in are listed in parentheses.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

- o Journal of Development Studies (Business Source Premier, Social Sciences Abstracts)
- o Journal of International Development (EconLit)
- o Review of Higher Education (ERIC)
- o Journal of Higher Education (ERIC)
- o Higher Education (Academic Search Elite, Education Abstracts)
- o Compare: A Journal of Comparative and International Education
- o Comparative Education (Education Abstracts, Academic Search Elite)
- o Journal of Studies in International Education (ERIC)
- o Gender and Education (ERIC)
- o Women's Studies International Forum (Social Science Abstracts, PsycINFO)
- o Compare: A Journal of Comparative and International Education (AEI, ERIC)

- Key websites and email blitz (institutions and organizations) for grey literature and internal research studies:

  - o Inter-American Development Bank
  - o Asian Development Bank
  - o World Bank
  - o African Development Bank
  - o Centre for Global Development
  - o Institute of Development Studies
  - o UNESDOC
  - o UNESCO
  - o CREATE
  - o ADEANET
  - o GDNET
  - o GDSRC
  - o ELDIS
  - o The EU-Asia Higher Education Platform
  - o The Chronicle of Higher Education
  - o British Council

  - o Australia - Australian Agency for International Development (AusAID)
  - o Austria - Austrian Development Agency - ADA [www.ada.gv.at] The Austrian Development Cooperation[1], Austria Wirtschaftsservice Gesellschaft (aws) [2]
  - o Belgium - Ministry of Foreign Affairs, Foreign Trade and Development: Belgian Policy Plan for Development Cooperation[3], Belgian Technical Cooperation - BTCCTB [4]
  - o Brazil - Agência Brasileira de Cooperação
  - o Canada - Canadian International Development Agency (CIDA) and International Development Research Centre (IDRC)
  - o China - China Aid [1]
  - o Denmark - Danish International Development Agency (DANIDA)
  - o European Union - EuropeAid Development and Cooperation [5]
  - o Finland- Department for International Development Cooperation (FINIDA) [6]
  - o France - Department for International Cooperation [7] and French Development Agency (AfD)
  - o Germany - Federal Ministry for Economic Cooperation and Development, German Development Bank (KfW) [8], and Deutsche

> Gesellschaft für Internationale Zusammenarbeit (GIZ) (GmbH: Corporation for International Development Cooperation)
> - Greece - Ministry of Foreign Affairs
> - Ireland - Irish Aid [9]
> - Israel - Ministry of Foreign Affairs: MASHAV - Israel's Agency for International Development Cooperation [10]
> - Italy - Ministry of Foreign Affairs: Italian Development Cooperation Programme [11]
> - Japan - Ministry of Foreign Affairs: Official Development Assistance [12], Japan International Cooperation Agency (JICA), and Japan Bank for International Cooperation (JBIC)
> - Korea - Korea International Cooperation Agency [13]
> - Liechtenstein - Liechtensteinische Entwicklungsdienst [14]
> - Luxembourg - Lux-Development [15]
> - New Zealand - New Zealand Agency for International Development (NZAid)[16]
> - Netherlands - Ministry of Development Cooperation [17] (has its own minister but is a part of the Ministry of Foreign Affairs)
> - Norway - Ministry of Foreign Affairs: International Development Program [18] and Norwegian Agency for Development Cooperation (NORAD)
> - Poland - Ministry of Foreign Affairs: The Development Co-operation Department [19]
> - Portugal - Instituto Português de Apoio ao Desenvolvimento [20]
> - Republic of China (Taiwan) - International Cooperation and Development Fund (ICDF) [21]
> - Romania - Assistance for Development [22]
> - Slovakia - Slovak Aid [23]
> - Spain - Spanish Agency for International Cooperation (AECID) [24]
> - Sweden - Swedish International Development Cooperation Agency (SIDA)
> - Switzerland - Swiss Agency for Development and Cooperation (SDC), Helvetas
> - Turkey - Turkish International Cooperation and Development Agency (TİKA) [25]
> - United Kingdom - Department for International Development (DFID)
> - United States - United States Agency for International Development (USAID) the Inter-American Foundation (IAF), and the Millennium Challenge Corporation (MCC) African Development Foundation (ADF)

Notably, these sources will be searched using filters to limit the search to studies published after 1990, when possible. In the second phase we would add to these results by:

- 'Snowballing' (hand-searching bibliographies of relevant papers to identify additional articles);
- Expert consultation (from personal or RAND networks).

A mixture of controlled vocabulary and free-text terms and their synonyms, will be used in a three-tier search. Tier 1 terms serve to identify studies related to higher education as opposed to secondary or primary education. Tier 2 terms aim to identify studies that address specific forms of provision (i.e., interventions) such as public, private and for-profit institutions; policies such as financial aid programs; and outcomes of interest such as access, quality and completion. Finally, Tier 3

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

serve to identify studies conducted in or relating to developing countries. Special characters will be used to ensure that all variations of the search terms are captured. By using the term, gender equit*, for example, articles containing terms "gender inequities" and "gender inequity" will both be identified. Below is a non-exhaustive list of search terms that may be used:

- Tier 1 terms:
  - Higher Education
    - Graduate Study; Postdoctoral Education; Undergraduate Study; Academic Degrees; College Admission; College Attendance; College Instruction; College Programs; Colleges; Developing Institutions; Doctoral Programs; Graduate Students; Masters Programs; Undergraduate Students; Universities; Advanced Education; Private Higher Education; Public Higher Education; Tertiary Education
  - Two-year Colleges
    - Community Colleges; Technical Institutes; Associate Degrees
  - Vocational Education
    - Adult Vocational Education; Business Education; Cooperative Education; Distributive Education; Prevocational Education; Technical Education; Trade and Industrial Education; TVET (technical and vocational education training); Work place learning
  - Certificate program
- AND Tier 2 terms:
  - Access to education
    - Access to Computers; Achievement Gap; Admission (School); Admission Criteria; At Risk Students; Attendance; Barriers; College Admission; College Attendance; Education; Educational Demand; Educational Discrimination; Educational Finance; Educational Supply; Enrollment; Experienced Teachers; External Degree Programs; Geographic Location; Inclusion; Intellectual Freedom; Noncampus Colleges; Open Enrollment; Open Universities; Prior Learning; School Location; Social Justice; Student Costs; Student Financial Aid; Virtual Classrooms; Educational Access; UDL; Universal Design for Learning
  - Equity
    - Academic Achievement; Academic Failure; Access to Education; Achievement Gains; Achievement Gap; Affirmative Action; At Risk Students; Educational Assessment; Educational Attainment; Educational Equity (Finance); Educational Indicators; Educational Status Comparison; Educationally Disadvantaged; Equal Education; Grade Repetition; Learning Problems; Low Achievement; Outcomes of Education; School Readiness; Student Educational Objectives; Underachievement
  - Articulation
    - Advanced Placement Programs; Alignment (Education); College School Cooperation; College Transfer Students; Curriculum Development; Developmental Continuity; Education; Educational Mobility; Educational Planning; Institutional Cooperation; Intercollegiate Cooperation; Program Content; Tech Prep; Transfer Policy; Transfer

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Programs; Transfer Rates (College); Unified Studies Curriculum; Upper Division Colleges
- o Attendance
  - College Attendance; Persistence; Access to Education; Attendance Patterns; Dropouts; Enrollment; Expulsion; Leaves of Absence; Participation; Reentry Students; School Attendance Legislation; Transfer Policy; Transfer Students; Truancy; Withdrawal (Education)
- o Distance Education
  - Asynchronous Communication; Blended Learning; Blended Instruction; Computer Mediated Communication; Correspondence Schools; Educational Television; Electronic Learning; Extension Education; External Degree Programs; Geographic Isolation; Handheld Devices;; Independent Study; Mass Instruction; Nontraditional Education; Online Courses; Open Universities; Outreach Programs; Part Time Students; Synchronous Communication; Telecommunications; Telecourses; Videoconferencing; Virtual Classrooms; Virtual Universities; Web Based Instruction
- o Education Policy
  - Board of Education Policy; Commercialization; Education; Educational Administration; Educational Assessment; Politics of Education; School District Autonomy; School Policy; School Restructuring; Self Determination; Stakeholders
- o Exchange Programs
  - Exchange Programs Enrichment Activities; Institutional Cooperation; Intercultural Programs; International Cooperation; International Educational Exchange
- o Gender Issues
  - Gender Differences; Gender Equity; Gender Inequity OR Gender Violence; Gender-based Abuse; Gender-based Discrimination; Gender-Based Violence; Post-Pregnancy; Sexual Discrimination; Violence Against Women
- o Government School Relationship
  - Developing Institutions; Educational Legislation; Federal Aid; Federal Government; Federal Regulation; Federal State Relationship; Full State Funding; Governance; Government (Administrative Body); Government Role; Institutional Autonomy; Local Government; National Competency Tests; National Curriculum; Partnerships in Education; Politics of Education; Private School Aid; Privatization; Public Policy; Public Service; School Administration; School Attitudes; School District Autonomy; School Involvement; School Role; Schools; State Aid; State Government; State Regulation; Student Records; Tribally Controlled Education
- o Women Education
  - Adult Education; Coeducation; Continuing Education; Females; Gender Issues; Postsecondary Education; Professional Continuing Education; Single Sex Classes; Single Sex Colleges; Single Sex Schools; Sororities; Womens Athletics; Womens Studies
- o Peer Teaching

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

- Cooperative Learning; Cross Age Teaching; Peer Influence; Peer Relationship; Reciprocal Teaching; Tutorial Programs; Tutoring; Peer tutoring
  - o Forms of Provision
    - Private Colleges; Public Education; Church Related Colleges; Private Education; Private Financial Support; Public Colleges; Single Sex Colleges; Small Colleges; Independent Colleges; Private Junior Colleges; Private Universities; Corporations; Cross-border; Cross-sector; Branch Campuses; For-profit; Foreign providers; Franchise; Joint Ventures; Satellite Institution; Consortia; Mixed Status; Multi-Campus Colleges; Non-campus College; Study Abroad; transnational education; Twinning; Group Assembled; Hybrid Learning; Individual Learner Assembled; International Education; Internship Programs; Internships; Mentoring; Mentorship; Outreach; Out-Source; Partnership; Part-Time; Subcontract; Company Designed; Consultancy; Brokerage
  - o Curriculum
    - Flexible Courses; Curriculum Development; Modular Courses; Modular Syllabus
  - o Policy
    - Administrative Policy; Capacity Building; Discipline Policy; Educational Policy; Educational Quality; Financial Policy; Foreign Policy; Governing Boards; Information Policy; Personnel Policy; Public Policy; School Policy; Transfer Policy; Policy Analysis; Policy Formation; Standards
  - o Finances
    - Fellowship; Financing; Full-Fee-Paying Students; Government Scholarships and Grants; Government Subsidies; Loans; Private Financial Support; Stipends; Student Costs; Student Financial Aid
  - o Collaboration
    - Local Collaboration; Regional Collaboration; Transnational Collaboration
- AND Tier 3 terms:
  - o LMIC Filters (see Appendix 4)

4.2.3 Screening studies: applying inclusion criteria

Articles will be searched in the sources listed above with the assistance of a research librarian. The initial results of the searches (records providing titles and abstracts of studies) will be screened by two reviewers independently based on the inclusion criteria outlined in section 4.2.1.

The screening will be undertaken in a reference manager software program (Endnote). The Endnote coding strategy is outlined in Appendix 5. Initially, based on the titles and abstracts, records will be classified ('include' or 'exclude') depending on whether they meet the inclusion criteria or not. Studies meeting inclusion criteria will be transferred to the database of included studies and will be categorised.

Those records which provide insufficient information to decide whether the study should be included or excluded based on a title and abstract screening, will be

classified 'unclear' and a copy of the full publication will be obtained. The full publication will be inclusion screened and those studies meeting inclusion criteria will be added to the database of included studies for further coding.

Titles without abstracts which appear to fulfill our inclusion criteria and those which do not provide enough information to ascertain suitability for inclusion will be selected. The abstracts of these titles will then be read. The inclusion criteria will again be applied to abstracts. Abstracts which appear to fulfill our inclusion criteria, as well as those which do not provide enough information to ascertain suitability for inclusion, will be selected for retrieval of full texts. Finally, selected full texts will be read. Those that fit the inclusion criteria set out in section 4.2.1 above will be included in the review; those which do not will be excluded.

For examples of both included and excluded studies, please see the Appendix 6.

4.2.4 Characterising included studies

Studies selected for full-text review be described using a standardized classification system developed for this review. The studies will be categorised according to the following criteria, where information is available (see Appendix 2 for draft coding tool):

Study Design: Studies will be categorised as randomised controlled trials, controlled trials, before-after studies, case studies, surveys, etc. Coding of study design allows us to assess whether the available evidence can provide robust evidence.

Study Method: The method used to collect the data (e.g. questionnaire-based survey, individual interviews, focus groups) will be recorded.

Intervention: Interventions will be categorised according to the description provided by the authors in the abstract where available. Examples of interventions include loan programs, part-time programs, and overseas study.

Setting: Studies will be categorised according to where the intervention takes place.

Student population: Information on the student population (e.g. gender, socio-economic status, ethnicity) will identify studies that focus on a particular subgroups of students. The number of participants will also be extracted.

Student outcomes: Student outcomes will be broadly categorised and the specific outcomes and assessment methods will be extracted where stated.

Descriptive information will also be recorded for each paper such as:

- Full bibliographical reference

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

- Publication type (peer review journal article, institution working paper)

Simple frequency counts and cross-tabulations will be conducted where appropriate to describe these studies. Final decisions about which kinds of studies to synthesise will be made in consultation with the EPPI-Centre, on the basis of the results of this process of systematic description.

4.2.5 Identifying and describing studies: quality assurance process

Pilot testing

The research team completed an initial pilot test of the search strategy (see Appendix 3); the team assessed the resulting title lists yielded by each search. This pilot testing confirmed that the search terms provided a manageable number of relevant hits and identified studies relevant to the review.

Prior to beginning the initial search, we will also conduct a more formal pilot test of the screening process described in Section 4.2.1. During this pilot, two researchers will independently apply the inclusion and exclusion criteria to the titles, abstracts, and full article texts for a small sample of studies identified in the search process. Any disagreement or uncertainties over inclusion and exclusion will be discussed.

Once the researchers have agreed upon pilot studies for inclusion, two researchers will independently apply the coding tool to the included pilot studies. The researchers will then compare their choices and reach a consensus on their coding. Based on these results, we will also modify the coding tool as needed. Conducting this pilot phase will allow us to develop a consistent screening and coding method, which will be applied to the remainder of the studies.

4.3 Methods for synthesis

4.3.1 Assessing the quality of studies

In order to assess "how much 'weight' should be given to the findings of a research study" in answering our systematic review question (Gough, 2007; p.1), the quality of the studies selected will be assessed according to three main criteria:

- Methodological quality (i.e. was the research methodology selected and used in the study applied appropriately);
- Methodological relevance (i.e. is the method used in the study appropriate to address the review's research question); and
- Topic relevance (i.e. does the focus of the study under review contribute to answering the systematic review's research question).

In order to assess the 'weight of evidence' of each study, we will develop a two-tiered system of classification for the studies. Research studies that fulfil all three criteria outlined above will be in tier 1, and studies that demonstrate topic relevance and at least one other criterion e.g. methodological quality and topic relevance but not methodological relevance) will be in tier two. Studies that only fulfil one criterion or that do not have topic relevance will be excluded from the

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

review. It is expected that while only tier 1 studies will provide the most robust evidence to address the systematic review question, tier 2 studies will also contribute relevant insights. The team will separately evaluate Tier 2 studies that (a) utilize methods appropriate to asking the review question (and qualify the findings in terms of how well the methods were applied), and (b) demonstrate the presence of well-conducted research (and qualify the findings for this review in terms of how appropriate the methods were for the review question). The classification of each study into one of the two tiers will also be conducted by two researchers. Where disagreements emerge about classification, a third researcher will be consulted.

Our classification scheme will be based on information in the draft coding scheme in Appendix 2. Methodological quality, for example, will be assessed based on factors such as sample selection methods, sample size, attrition, and data collection methods while topic relevance will be determined by factors such as the outcomes studied, type of provision and setting. However, in order ensure that we include a sufficiently broad range of studies, we will not develop our final classification scheme until we have surveyed the literature and have a broader sense of the level of rigor of existing research on the topic. To help assure the review's quality at this stage, pairs of reviewers will first work independently and will then compare their decisions before coming to a consensus. If necessary, a third reviewer will provide an independent judgment.

4.3.2 Overall approach to and process of synthesis

The synthesis will examine higher education policies and methods of provision and their impacts on access, quality, and gender issues in developing countries, and address potential differences of these impacts in terms of gender. The synthesis will also describe the ways in which these differential are understood to occur. Additionally, the synthesis will explain the types of outcomes for which there is evidence. Finally, the synthesis will briefly address gaps in the evidence base on the systematic review question.

We will use narrative synthesis to analyze the studies. We anticipate structuring the synthesis around a summary table presenting descriptive details of each study included in the review.

4.3.2.1 Selection of studies for synthesis (if not all studies that are included in the synthesis)

We will choose studies for synthesis based on the "weight of evidence" approach developed by Gough (2007) and described in section 4.3.1. We will synthesize Tier 1 and Tier 2 studies.

Records that we are unable to classify as a study meeting inclusion criteria and that cannot be ordered will be listed. Foreign language studies which cannot be read by the review team and without an English abstract will also be listed as will studies published prior to 1990. This enables an estimate of the volume of potentially further relevant research.

31

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

4.3.2.2 Selection of outcome data for synthesis

As previously mentioned, the definition of "higher education provision" is broad, making potential range of outcomes of primary studies quite large. However, not all outcome data from primary studies will be relevant for analysis in this systematic review. Data synthesised in the review will include only those studies which specifically address how different forms of higher education provision impact student outcomes including but not limited to access, quality, and completion decisions. We will discuss the outcome indicators considered and not considered in the evidence in the synthesis.

4.3.2.3 Process used to combine/ synthesise data

The synthesis of data will be guided by the following key questions:

- What are the specific outcomes examined in the evidence?
- What is the evidence on whether different types of higher education provision and policies lead to different outcomes?
- If there is evidence that different types of higher education provision and policies lead to different outcomes, and what are the implications for key institutions in developing countries?
- What is the overall evidence on the differential impact of various forms of higher education provision and policies for women relative to men?

As we expect the studies we identify to be of an extremely heterogeneous nature we will initially employ a narrative synthesis method.

For the narrative synthesis, the studies will be grouped into education method of provision and policy and then sub-grouped by outcome type. The methodologies and results of studies belonging to both the same method of provision or policy and outcome category will then be compared to see if there is any association between methodological features and results. The results will then be discussed with appropriate emphasis given to the studies that are more methodologically robust. The results will also be tabulated in a way that demonstrates the methodological robustness of each study. The narrative will be written by the lead quantitative or qualitative reviewer and then checked independently by a second reviewer who will provide feedback and comments. Any disagreements will be decided by a third reviewer.

4.4 Deriving conclusions and implications

We will derive implications and conclusions from the synthesis of findings based on review team discussions, as well as ongoing, informal interactions with AUSAID's Research and Evidence Division staff members. We will draw on the expertise of Dr. Krishna Kumar, a Senior Economist at RAND and team member, who has extensive experience in international development and higher education issues.

We will present our preliminary conclusions in the Draft Review and will incorporate comments from AusAID and EPPI-Centre into the Final Review as well as the Policy Brief and Short Summary.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

5. Timeline

The following table provides the anticipated timeline for this project. Adhering to the timeline will be contingent on receiving feedback from AUSAID and EPPI Centre reviewers in the timeframe indicated.

Task	Anticipated Completion Date
Protocol submitted	4 April 2012
Comments on protocol received	23 November 2012
Updated protocol submitted	25 May 2012
Draft Review submitted	19 October 2012
Comments on Draft Review received	23 November 2012
Final Review, Policy Brief, and Short Summary submitted	18 December 2012

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

6. Plans for updating

The review may be updated once a significant amount of new, relevant studies are available, conditional on acquiring additional funds to perform the update. We will provide AusAID with a full reference list of the full-text studies reviewed for inclusion in Step 3 of the screening process (see Section 4.2.3). The same reference list will be made available to any other research groups wishing to update the review.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

References

Abeli, W., (2010). "Higher Education and Development: A Critical Nexus." In Kotecha, P. (Ed.), Investment in Higher Education for Development: New Directions, SARUA Leadership Dialogue Series 2(2).

Agarwal, P. (2006). "Higher Education in India: The Need for Change." Indian Council for Research on International Economic Relations. Working Paper No. 180.

Albrecht, D. and Ziderman, A. (1991). "Deferred Cost Recovery for Higher Education. Student Loan Programs in Developing Countries." World Bank Discussion Paper 137.

Allen, M., Mabry, E., Mattrey, M., Bourhis, J., Titsworth, S. and Burrell, N. (2004). Evaluating the Effectiveness of Distance Learning: A Comparison Using Meta-Analysis. Journal of Communication, 54: 402–420. doi: 10.1111/j.1460-2466.2004.tb02636.x.

Astin, A., (1985). Achieving Educational Excellence. (San Francisco, Josey-Bass).

Birdsall, N., (1996). "Public Spending on Higher Education in Developing Countries: Too Much or Too Little?" Economics of Education Review, 15: 407-419.

Bloom, D., Rosovsky, H. et al. (2000). "Higher Education in Developing Countries: Peril and Promise." Task Force on Higher Education and Society, The World Bank.

Bollag, B., (2001). "Student Loans: A Slippery Lifeline." The Chronicle of Higher Education, 7 December 2001.

Bunoti, Sarah (2011). "Quality of Higher Education in Developing Countries Needs Professional Support." Conference proceedings from the 22nd International Conference on Higher Education, Bilkent University, Anakara, June 17-19, 2011.

Creed, C., Perraton, H., and Waage, J., (2012). "Examining Development Evaluation in Higher Education Interventions: A Preliminary Study." London International Devel0pment Center Working Paper.

Cunningham, S., Tapsall, S., Ryan, Y., Stedman, L., Bagdon, K., and Flew, T. (1998). "New Media and Borderless Education: A Review of the Convergence between Global Media Networks and Higher Education Provision." Canberra: Australian Government Publishing Service.

Didriksson, A., (2008). "Global and Regional Contexts of Higher Education in Latin America and the Caribbean." In Gazzola, L. and Didriksson, A. (Eds.), Trends in Higher Education in Latin America and the Caribbean, International Institute of UNESCO for Higher Education in Latin America and the Caribbean.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Fields, G. S. (1980). Education and income distribution in developing countries: A review of the literature. In T. King (Ed.), Education and income. (Staff Working Paper 402). Washington, DC: World Bank.

Fischer, K. (2010). "China Props up Students' Numbers in U.S." The Chronicle of Higher Education. Retrieved from<http://chronicle.com/ article/Popularity-of-US-Among/125375/ >.

Gough, D. (2007). "Weight of evidence: a framework for the appraisal of the quality and relevance of evidence". In J. Furlong, A. Oancea (Eds.) Applied and Practice-based Research. Special Edition of Research Papers in Education, 22(2): 213-228.

Hafkin, N. J., N. Taggart, et al. (2001). Gender, information technology, and developing countries: An analytic study, Office of Women in Development, Bureau for Global Programs, Field Support and Research, United States Agency for International Development.

Handa, S. and Gordon, P-J. (1999). "University admissions policy in a developing country: evidence from the University of the West Indies." Economics of Education Review, 18(2): 279-289.

Harden A (2007). The quality of qualitative evidence: a review of assessment tools. Seventh Annual International Campbell Colloquium, London, England, 14 – 16 May.

Kapur, D. and Crowley, M. (2008). "Beyond the ABCs: Higher Education and Developing Countries." Working papers 139, Center of Global Development.

Kapur, D. and Mehta, P. (2008). "Mortgaging the Future? Indian Higher Education," Brookings-NCAER India Policy Forum 2007-08. 4: 101-157.

King, E.M. and Hill, M.A. (Eds.). (1998). Women's Education in Developing Countries: Barriers, Benefits, and Policies. World Bank Research Publications: Johns Hopkins University Press.

Kinser, K. (2010). "A Global Perspective of For-Profit Higher Education." In Hentschke, G., Lechuga, V., and Tierney, W. (Eds.) For-Profit Colleges and Universities: Their Markets, Regulation, Performance and Place in Higher Education. Stylus Publishing.

Knight, J. (2003). "GATS, Trade and Higher Education: Perspective 2003 - Where are we?" London: The Observatory on Borderless Higher Education.

Knight, J. (2005). "Cross-border Education: Programs and Providers on the Move." CBIE Millennium Research Monograph No. 10. Canadian Bureau for International Education. Ottawa, Canada.

Labi, A. (2009). "Experts Assess Consequences of Global Surge in Demand for Higher Education." The Chronicle of Higher Education. November 17, 2009. Accessed Nov., 17, 2010: http://chronicle.com/article/Experts-Assess-Global-Surge-in/47357.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Lee, M., and Healy S. (2006). "Higher Education in Southeast Asia: An Overview." In Higher Education in Southeast Asia. UNESCO Asia and Pacific Regional Bureau for Education.

Levy, D. (2008). "Access Through Private Higher Education: Global Patterns and Indian Illustrations" Program for Research on Private Higher Education, Working Paper Series, WP No. 11.

Lkhamsuren, Munkh-Erdene, Nataliya Dromina-Voloc, and Riedwaan Kimmie (2009). "Financing Higher Education: A Myriad of Problems, A Myriad of Solutions." Institute for Higher Education Policy, Washington DC.

Lin, J. (2005). "China's Higher Education Reform and the Beida Debate." Harvard China Review, 5(2): 132-138.

Mama, A. (2003). "Restore, Reform, but do not Transform: The Gender Politics of Higher Education in Africa." Journal of Higher Education in Africa, 1(1): 101-125.

Masanja, V. (2010). "Increasing Women's Participation in Science, Mathematics, and Technology Education and Employment in Africa." United Nations Division for the Advancement of Women.

McCarthy, A., Smuts, B., and Cosser, M. (1997). "Assessing the Effectiveness of Supplemental Instruction: A Critique and a Case Study." Studies in Higher Education, 22(2): 221-231.

Middlehurst, R. (2001). "Quality Assurance Implications of New Forms of Higher Education: Part 1: A Typology" ENQA Occasional Papers. Helsinki: European Network for Quality Assurance in Higher Education.

Middlehurst, R. and Campbell, C. (2004). "Quality Assurance and Borderless Higher Education: Finding Pathways through the Maze." In Mapping Borderless Higher Education: Policy, Markets and Competition. London: The Observatory on Borderless Higher Education. Pp. 89-153.

Miranda, X. (2008). "Regional Integration and Internationalization of Higher Education in Latin America and the Caribbean." In Gazzola, L. and Didriksson, A. (Eds.), Trends in Higher Education in Latin America and the Caribbean, International Institute of UNESCO for Higher Education in Latin America and the Caribbean.

Miyagiwa, K. (1991). "Scale Economies and the Brain Drain Problem." International Economic Review, 32(3): 743-759.

Mohamedbhai, G. (2002). "Globalization and its Impact on Universities in Developing Countries."

Moher, D., Fortin, P., Jadad, A.R., Juni, P., Klassen, T., Le Lorier, J., Liberati, A., Lindeet, K., Penna, A. (1996). Completeness of reporting trials published in languages other than English: Implications for conduct and reporting of systematic reviews. Lancet, 347, 363-366.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Muangkeow, S. (2007). "Integration of ICT in Higher Education Provision: The Case of Thailand." Presented at the Regional Seminar on Making a Difference: ICT in University Teaching/Learning and Research in Southeast Asian Countries.

Nwuke, K. (2008). "The Private Provision of Higher Education in Ethiopia: Growth, Challenges, and Prospects." JHEA/RESA, 6(1): 71-94.

Observatory on Borderless Higher Education. (Ed.). (2004b). Mapping Borderless Higher Education: Policy, Markets and Competition. London: Association of Commonwealth Universities.

Palay, P., (2010). "Funding in Higher Education: Trends and Possibilities." In Kotecha, P. (Ed.), Investment in Higher Education for Development: New Directions, SARUA Leadership Dialogue Series 2(2).

Pawson, R., Boaz, A., Grayson, L., Long, A., and Barnes, C. (2003). "Types and Quality of Knowledge in Social Care. Knowledge Review 3." London: Social Care Institute of Excellence.

Perkinson, R. (2006). "International Higher Education 'Seizing the opportunity for innovation and international responsibility.'" International Finance Corporation. World Bank Group. Presentation to 'Global 2' Education Conference, Edinburgh. December 7 and 8.

Pires, S., and Lemaitre, M., (2008). "Higher Education Accreditation and Assessment Systems in Latin America and the Caribbean." In Gazzola, L. and Didriksson, A. (Eds.), Trends in Higher Education in Latin America and the Caribbean, International Institute of UNESCO for Higher Education in Latin America and the Caribbean.

Subbarao, K. (1994). Women in Higher Education: Progress, Constraints, and Promising Initiatives, World Bank Publications.

Saint, W. (1998). "Tertiary Distance Learning in Africa." ADEA Working Group on Higher Education, The World Bank.

Tam, M. (2001). "Measuring Quality and Performance in Higher Education." Quality in Higher Education, 7(1): 47-54.

Teferra, D., and Altbach, P. (2004). "African Higher Education: Challenges for the 21st Century." Higher Education, 47(1): 21-50.

Teferra, D., and Knight, J. (Eds.). (2008), "Higher Education in Africa: The International Dimension." Boston: Association of African Universities.

Teferra, D. and P. G. Altbachl (2004). "African higher education: Challenges for the 21st century." Higher Education 47(1): 21-50.

Thomas J, Harden A. (2009). Methods for the thematic synthesis of qualitative research in systematic reviews. BMC Medical Research Methodology 9:59 doi:10.1186/1471-2288-9-59.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Tilak, J.B.G. (2003). Higher Education and Development, in the Handbook on Educational Research in the Asia Pacific Region (eds. J.P. Kleeves & Ryo Watanabe) Dordrecht: Kluwer Academic Publishers, pp. 809-26

Usher, A. and J. Medow (2010). Global Higher Education Rankings 2010, Affordability and accessibility in comparative perspective. Toronto: Higher Education Strategy Associates.

Wang, H. (2011). "Access to higher education in China: Differences in opportunity." Frontiers of Education in China 6(2): 227-247.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Appendices

Appendix 1: Authorship of this review

This systematic review is funded by AusAID.

Authors

Megan Clifford, RAND Corporation
Dr. Trey Miller, RAND Corporation
Dr. Cathy Stasz, RAND Corporation
Cecile Sam, University of Southern California
Dr. Krishna Kumar, RAND Corporation

Review group

RAND Corporation

Contact details

Megan Clifford (clifford@rand.org)
RAND Corporation
1776 Main Street
Santa Monica, CA 90401
TE: (310) 430-5713 x7107

Conflict of interest

The authors are not aware of any conflicts of interest in conducting this systematic review.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Appendix 2: Draft coding tool

A. Basic information

    A.1)   Identifier
Field type: free text
- Endnote number including hash key, multiple Endnote numbers for duplicate publications of the same study

    A.2)   Coding source
Field type: mutually exclusive
Categories
1. Full paper
2. Ti, ab and possible database index
3. Ti only
4. Unclear

    A.3)   Bibliographic details
Field type: free text
- Full reference, APA standard

    A.4)   Publication Type
Field type: mutually exclusive
Categories
1. Peer reviewed journal
2. Book or book chapter
3. Institutional publication
4. Institutional working paper
5. Conference paper
6. Other (specify)

    A.5)   Research status
Field type: mutually exclusive
Categories
1. Complete
2. Ongoing
3. Unclear

    A.6)   Funding Source
Specify if provided: _____

    A.7)   Setting
Field type: free text
1. Extract country or countries where intervention took place, use country names consistently (i.e. USA, UAE, Nigeria)

    A.8)   Type of higher education provision or policy
Field type: multiple options
Categories
1. public degree-granting institution
2. public vocational program
3. public two year degree
4. certificate-granting program
5. private non-profit institution

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

6. private for-profit institution
7. public-private partnership
8. study abroad program
9. consortia, network, or partnership
10. branch campus
11. virtual or distance-based learning
12. stipends
13. scholarships
14. student loans
15. opening institutions or outreach offices in deprived areas
16. expanding 2-year, certificate, and vocational programs
17. modular and flexible courses
18. internship programs
19. capacity building and consortia
20. curriculum development
21. peer tutoring and mentoring programs
22. gender-based scholarships
23. policies to reintegrate females post-pregnancy
24. outreach and support offices for female students
25. programs to prevent gender violence
26. affirmative action
27. all female classes and institutions
28. Other (please specify) _____
29. Unclear

Describe form of education provision if applicable: _____

B. Data

B.1)   Unit of observation
Field type: mutually exclusive
Categories
1. Country
2. State, province, or similar entity within a country
3. Institution
4. Household
5. Individual
6. Other (specify)

Specify number of units (e.g., 73 institutions, 300 students): _____

B.2)   Student population
Field type: free text
1. Gender
2. Mean age
3. Socio-economic status
4. Ethnicity
5. Other
6. Unclear

B.3)   Data Source
Field type: multiple
Category
1. Secondary

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

2. Primary

Specify data source(s): _____

B.4)   Nature of Data
Field type: multiple
Category
1. One cross-section
2. Multiple cross-sections
3. Panel
4. Time series observations

Specify the time period covered: _____

B.5)   If primary data are used, record the following:
1. Population from which sample is drawn
2. Sample selection methods
3. Sample size
4. Evidence that consent was sought
5. Type of data collected
6. Data collection methods

C. Study Design

C.1)   Type of study / formal design
Field type: mutually exclusive
Categories
1. Randomised controlled trial
2. Controlled trial
3. Before-after study
4. Survey of existing form of provision (rather than intervention implementation)
5. Regression-based
6. Other: _____
7. Unclear

C.2)   Type of Study / Formal Design
Field type: mutually exclusive
Categories
1. Randomised controlled trial
2. Controlled trial
3. Quasi-Experimental
4. Regression-Based
5. Cross-Country, Panel Analysis
6. Cross-Country, Non-Panel Analysis
7. Survey of existing form of provision (rather than intervention implementation)
9. Other (specify)
10. Unclear

C.3)   Data Analysis Methods
Field type: multiple
Categories
1. Cross-sectional regressions

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

2. Panel regressions
3. Time series regressions
4. Instrumental variables methods
5. Natural experiments (e.g., regression discontinuity design)
6. Statistical matching techniques (e.g., propensity score approach)
7. Structural models
8. Comparison of means (treatment and control groups)
9. Other (specify)

C.4)   Confounding factors
Field type: mutually exclusive
Categories
1. Confounding factors not discussed
2. Confounding factors discussed but not significant
3. Significant confounding factors present; not addressed convincingly
4. Significant confounding factors present; addressed convincingly by use of identification strategy, control variables, etc.

C.5)   Variable measurement
Field type: mutually exclusive
Categories
1. No systematic reproducible approach to variable measurement is employed
2. No indication of how variables were constructed or obtained
3. Some attention to constructing or obtaining high quality measures
4. Variables developed or selected with some consideration of use in prior studies and reliability of measurement
5. Careful selection of relevant variables considering their prior use and reliability for all or most of the measures

C.6)   Control for missing data or attrition
Field type: mutually exclusive
Categories
1. Missing data and/or attrition not discussed
2. Missing data and/or attrition not a significant issue
3. Missing data and/or attrition may be a significant issue, not adequately addressed
4. Missing data and/or attrition may be a significant issue, adequately addressed

C.7)   Use of statistical significance tests
Field type: mutually exclusive
Categories
1. No statistical tests or effect sizes
2. Statistical tests used or effect sizes computed
3. Statistical tests or effect sizes not relevant

C.8)   Study Quality

1.   Based on the information extracted, focusing particularly on the elements of the study design, evaluate the execution of the study:
    1. No reliance or confidence should be placed on the results of this evaluation because of the number and type of serious

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

shortcomings(s) in the methodology employed (EXCLUDE and stop here)

2. Methodology rigorous in some respects, weak in others
3. Methodology rigorous in almost all respects

2. Also evaluate the study according to the following two areas: is there any known or stated reason the method used in the study may not be relevant for the review question?
___ Yes
___ No

3. Is there any known or stated reason the topic focus or context of the study may not be relevant to the review question?
___ Yes
___ No

D. Outcomes
[This section will be refined after conducting the pilot search, screening and coding, to fit the types of outcomes available in the included studies.]

D.1)   Relevant Outcomes Assessed
Field type: multiple
Categories
1.   Access
2.   Quality
3.   Completion
4.   Other (Please Specify):

D.2 Are the outcomes differentiated by gender?
___ Yes
___ No

Specify education outcomes, including differences by gender if available: _____

Specify qualitative findings about the impacts found: _____

Internal use only
References checked where available
Field type: mutually exclusive options
    Categories
    7. Yes and ordered
    8. Yes, nothing new
    9. No
Comments for checker
Field type: free text
                i.   Comments

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Appendix 3: Search Strategy Pilot using the ERIC database

1. TI="higher education" OR AB="higher education" OR TI=universit* OR AB= Universit*
2. DE="Postsecondary Education" OR DE="Higher Education" OR DE="Graduate Study" OR DE="Postdoctoral Education" OR DE="Undergraduate Study" OR DE="Academic Degrees" OR DE="College Admission" OR DE="College Attendance" OR DE="College Instruction" OR DE="College Programs" OR DE=Colleges OR DE="Developing Institutions" OR DE="Doctoral Programs" OR DE="Graduate Students" OR DE="Masters Programs" OR DE="Undergraduate Students" OR DE= "Universities" OR DE= "Advanced Education" OR DE="Private Higher Education" OR DE="Public Higher Education" OR DE="Tertiary Education"
3. 1 OR 2
4. TI="Cooperative Learning" OR AB="Cooperative Learning" OR TI="Cross Age Teach*" OR AB="Cross Age Teach*" OR TI="Peer Influence" OR TI= "Peer Relationship" TI= "Reciprocal Teach*" TI= "Tutorial Programs" TI= Tutor* TI= "Peer tutor*" OR AB="Peer Influence" OR AB= "Peer Relationship" AB= "Reciprocal Teach*" AB= "Tutorial Programs" AB= Tutor* AB= "Peer tutor*"
5. DE= ("Cooperative Learning" OR "Cross Age Teaching" OR "Peer Influence" OR "Peer Relationship" OR "Reciprocal Teaching" OR "Tutorial Programs" OR Tutoring OR "Peer tutoring")
6. 4 OR 5
7. TI=("developing country" OR "developing countries" OR "developing nation" OR "developing nations" OR "developing population" OR "developing populations" OR "developing world" OR "less developed country" OR "less developed countries" OR "less developed nation" OR "less developed nations" OR "less developed population" OR "less developed populations" OR "less developed world" OR "lesser developed country" OR "lesser developed countries" OR "lesser developed nation" OR "lesser developed nations" OR "lesser developed population" OR "lesser developed populations" OR "lesser developed world" OR "under developed country" OR "under developed countries" OR "under developed nation" OR "under developed nations" OR "under developed population" OR "under developed populations" OR "under developed world" OR "underdeveloped country" OR "underdeveloped countries" OR "underdeveloped nation" OR "underdeveloped nations" OR "underdeveloped population" OR "underdeveloped populations" OR "underdeveloped world" OR "middle income country" OR "middle income countries" OR "middle income nation" OR "middle income nations" OR "middle income population" OR "middle income populations" OR "low income country" OR "low income countries" OR "low income nation" OR "low income nations" OR "low income population" OR "low income populations" OR "lower income country" OR "lower income countries" OR "lower income nation" OR "lower income nations" OR "lower income population" OR "lower income populations" OR "underserved country" OR "underserved countries" OR "underserved nation" OR "underserved nations" OR "underserved population" OR "underserved populations" OR "underserved world" OR "under served country" OR "under served countries" OR "under served nation" OR "under served nations" OR "under served population" OR "under served populations" OR "under served world" OR "deprived country" OR "deprived countries" OR "deprived nation" OR "deprived nations" OR "deprived population" OR "deprived populations" OR "deprived world" OR "poor country" OR "poor countries" OR "poor nation" OR "poor nations" OR "poor population" OR "poor populations" OR "poor world" OR "poorer country" OR "poorer countries" OR

"poorer nation" OR "poorer nations" OR "poorer population" OR "poorer populations" OR "poorer world" OR "developing economy" OR "developing economies" OR "less developed economy" OR "less developed economies" OR "lesser developed economy" OR "lesser developed economies" OR "under developed economy" OR "under developed economies" OR "underdeveloped economy" OR "underdeveloped economies" OR "middle income economy" OR "middle income economies" OR "low income economy" OR "low income economies" OR "lower income economy" OR "lower income economies" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami country" OR "lami countries" OR "transitional country" OR "transitional countries" OR Search Africa OR Asia OR Caribbean OR West Indies OR South America OR Latin America OR Central America OR Afghanistan OR Albania OR Algeria OR Angola OR Antigua OR Barbuda OR Argentina OR Armenia OR Armenian OR Aruba OR Azerbaijan OR Bangladesh OR Benin OR Byelarus OR Byelorussian OR Belarus OR Belorussian OR Belorussia OR Belize OR Bhutan OR Bolivia OR Bosnia OR Herzegovina OR Hercegovina OR Botswana OR Brazil OR Bulgaria OR Burkina Faso OR Burkina Fasso OR Upper Volta OR Burundi OR Urundi OR Cambodia OR Khmer Republic OR Kampuchea OR Cameroon OR Cameroons OR Cameron OR Camerons OR Cape Verde OR Central African Republic OR Chad OR Chile OR China OR Colombia OR Comoros OR Comoro Islands OR Comores OR Mayotte OR Congo OR Zaire OR Costa Rica OR Cote d'Ivoire OR Ivory Coast OR Cuba OR Cyprus OR Czechoslovakia OR Czech Republic OR Slovakia OR Slovak Republic OR Djibouti OR French Somaliland OR Dominica OR Dominican Republic OR East Timor OR East Timur OR Timor Leste OR Ecuador OR Egypt OR United Arab Republic OR El Salvador OR Eritrea OR Estonia OR Ethiopia OR Fiji OR Gabon OR Gabonese Republic OR Gambia OR Gaza OR Georgia Republic OR Georgian Republic OR Ghana OR Gold Coast OR Greece OR Grenada OR Guatemala OR Guinea OR Guam OR Guiana OR Guyana OR Haiti OR Honduras OR India OR Maldives OR Indonesia OR Iran OR Iraq OR Isle of Man OR Jamaica OR Jordan OR Kazakhstan OR Kazakh OR Kenya OR Kiribati OR Korea OR Kosovo OR Kyrgyzstan OR Kirghizia OR Kyrgyz Republic OR Kirghiz OR Kirgizstan OR "Lao PDR" OR Laos OR Latvia OR Lebanon OR Lesotho OR Basutoland OR Liberia OR Libya OR Lithuania OR Macedonia OR Madagascar OR Malagasy Republic OR Malaysia OR Malaya OR Malay OR Sabah OR Sarawak OR Malawi OR Nyasaland OR Mali OR Malta OR Marshall Islands OR Mauritania OR Mauritius OR Agalega Islands OR Mexico OR Micronesia OR Middle East OR Moldova OR Moldovia OR Moldovian OR Mongolia OR Montenegro OR Morocco OR Ifni OR Mozambique OR Myanmar OR Myanma OR Burma OR Namibia OR Nepal OR Netherlands Antilles OR New Caledonia OR Nicaragua OR Niger OR Nigeria OR Northern Mariana Islands OR Muscat OR Pakistan OR Palau OR Palestine OR Panama OR Paraguay OR Peru OR Philippines OR Philipines OR Phillipines OR Phillippines OR Puerto Rico OR Romania OR Rumania OR Roumania OR Russia OR Russian OR Rwanda OR Ruanda OR Saint Kitts OR St Kitts OR Nevis OR Saint Lucia OR St Lucia OR Saint Vincent OR St Vincent OR Grenadines OR Samoa OR Samoan Islands OR Navigator Island OR Navigator Islands OR Sao Tome OR Senegal OR Serbia OR Montenegro OR Seychelles OR Sierra Leone OR Slovenia OR Sri Lanka OR Ceylon OR Solomon Islands OR Somalia OR Sudan OR Suriname OR Surinam OR Swaziland OR Syria OR Tajikistan OR Tadzhikistan OR Tadjikistan OR Tadzhik OR Tanzania OR Thailand OR Togo OR Togolese Republic OR Tonga OR Tunisia OR Turkey OR Turkmenistan OR Turkmen OR Uganda OR Ukraine OR Uruguay OR USSR OR Soviet Union OR

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Union of Soviet Socialist Republics OR Uzbekistan OR Uzbek OR Vanuatu OR New Hebrides OR Venezuela OR Vietnam OR Viet Nam OR West Bank OR Yemen OR Yugoslavia OR Zambia OR Zimbabwe OR Rhodesia)
AB=("developing country" OR "developing countries" OR "developing nation" OR "developing nations" OR "developing population" OR "developing populations" OR "developing world" OR "less developed country" OR "less developed countries" OR "less developed nation" OR "less developed nations" OR "less developed population" OR "less developed populations" OR "less developed world" OR "lesser developed country" OR "lesser developed countries" OR "lesser developed nation" OR "lesser developed nations" OR "lesser developed population" OR "lesser developed populations" OR "lesser developed world" OR "under developed country" OR "under developed countries" OR "under developed nation" OR "under developed nations" OR "under developed population" OR "under developed populations" OR "under developed world" OR "underdeveloped country" OR "underdeveloped countries" OR "underdeveloped nation" OR "underdeveloped nations" OR "underdeveloped population" OR "underdeveloped populations" OR "underdeveloped world" OR "middle income country" OR "middle income countries" OR "middle income nation" OR "middle income nations" OR "middle income population" OR "middle income populations" OR "low income country" OR "low income countries" OR "low income nation" OR "low income nations" OR "low income population" OR "low income populations" OR "lower income country" OR "lower income countries" OR "lower income nation" OR "lower income nations" OR "lower income population" OR "lower income populations" OR "underserved country" OR "underserved countries" OR "underserved nation" OR "underserved nations" OR "underserved population" OR "underserved populations" OR "underserved world" OR "under served country" OR "under served countries" OR "under served nation" OR "under served nations" OR "under served population" OR "under served populations" OR "under served world" OR "deprived country" OR "deprived countries" OR "deprived nation" OR "deprived nations" OR "deprived population" OR "deprived populations" OR "deprived world" OR "poor country" OR "poor countries" OR "poor nation" OR "poor nations" OR "poor population" OR "poor populations" OR "poor world" OR "poorer country" OR "poorer countries" OR "poorer nation" OR "poorer nations" OR "poorer population" OR "poorer populations" OR "poorer world" OR "developing economy" OR "developing economies" OR "less developed economy" OR "less developed economies" OR "lesser developed economy" OR "lesser developed economies" OR "under developed economy" OR "under developed economies" OR "underdeveloped economy" OR "underdeveloped economies" OR "middle income economy" OR "middle income economies" OR "low income economy" OR "low income economies" OR "lower income economy" OR "lower income economies" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami country" OR "lami countries" OR "transitional country" OR "transitional countries" OR Search Africa OR Asia OR Caribbean OR West Indies OR South America OR Latin America OR Central America OR Afghanistan OR Albania OR Algeria OR Angola OR Antigua OR Barbuda OR Argentina OR Armenia OR Armenian OR Aruba OR Azerbaijan OR Bangladesh OR Benin OR Byelarus OR Byelorussian OR Belarus OR Belorussian OR Belorussia OR Belize OR Bhutan OR Bolivia OR Bosnia OR Herzegovina OR Hercegovina OR Botswana OR Brazil OR Bulgaria OR Burkina Faso OR Burkina Fasso OR Upper Volta OR Burundi OR Urundi OR Cambodia OR Khmer Republic OR Kampuchea OR Cameroon OR Cameroons

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

OR Cameron OR Camerons OR Cape Verde OR Central African Republic OR Chad OR Chile OR China OR Colombia OR Comoros OR Comoro Islands OR Comores OR Mayotte OR Congo OR Zaire OR Costa Rica OR Cote d'Ivoire OR Ivory Coast OR Cuba OR Cyprus OR Czechoslovakia OR Czech Republic OR Slovakia OR Slovak Republic OR Djibouti OR French Somaliland OR Dominica OR Dominican Republic OR East Timor OR East Timur OR Timor Leste OR Ecuador OR Egypt OR United Arab Republic OR El Salvador OR Eritrea OR Estonia OR Ethiopia OR Fiji OR Gabon OR Gabonese Republic OR Gambia OR Gaza OR Georgia Republic OR Georgian Republic OR Ghana OR Gold Coast OR Greece OR Grenada OR Guatemala OR Guinea OR Guam OR Guiana OR Guyana OR Haiti OR Honduras OR India OR Maldives OR Indonesia OR Iran OR Iraq OR Isle of Man OR Jamaica OR Jordan OR Kazakhstan OR Kazakh OR Kenya OR Kiribati OR Korea OR Kosovo OR Kyrgyzstan OR Kirghizia OR Kyrgyz Republic OR Kirghiz OR Kirgizstan OR "Lao PDR" OR Laos OR Latvia OR Lebanon OR Lesotho OR Basutoland OR Liberia OR Libya OR Lithuania OR Macedonia OR Madagascar OR Malagasy Republic OR Malaysia OR Malaya OR Malay OR Sabah OR Sarawak OR Malawi OR Nyasaland OR Mali OR Malta OR Marshall Islands OR Mauritania OR Mauritius OR Agalega Islands OR Mexico OR Micronesia OR Middle East OR Moldova OR Moldovia OR Moldovian OR Mongolia OR Montenegro OR Morocco OR Ifni OR Mozambique OR Myanmar OR Myanma OR Burma OR Namibia OR Nepal OR Netherlands Antilles OR New Caledonia OR Nicaragua OR Niger OR Nigeria OR Northern Mariana Islands OR Muscat OR Pakistan OR Palau OR Palestine OR Panama OR Paraguay OR Peru OR Philippines OR Philipines OR Phillipines OR Phillippines OR Puerto Rico OR Romania OR Rumania OR Roumania OR Russia OR Russian OR Rwanda OR Ruanda OR Saint Kitts OR St Kitts OR Nevis OR Saint Lucia OR St Lucia OR Saint Vincent OR St Vincent OR Grenadines OR Samoa OR Samoan Islands OR Navigator Island OR Navigator Islands OR Sao Tome OR Senegal OR Serbia OR Montenegro OR Seychelles OR Sierra Leone OR Slovenia OR Sri Lanka OR Ceylon OR Solomon Islands OR Somalia OR Sudan OR Suriname OR Surinam OR Swaziland OR Syria OR Tajikistan OR Tadzhikistan OR Tadjikistan OR Tadzhik OR Tanzania OR Thailand OR Togo OR Togolese Republic OR Tonga OR Tunisia OR Turkey OR Turkmenistan OR Turkmen OR Uganda OR Ukraine OR Uruguay OR USSR OR Soviet Union OR Union of Soviet Socialist Republics OR Uzbekistan OR Uzbek OR Vanuatu OR New Hebrides OR Venezuela OR Vietnam OR Viet Nam OR West Bank OR Yemen OR Yugoslavia OR Zambia OR Zimbabwe OR Rhodesia)

8. AB=("developing country" OR "developing countries" OR "developing nation" OR "developing nations" OR "developing population" OR "developing populations" OR "developing world" OR "less developed country" OR "less developed countries" OR "less developed nation" OR "less developed nations" OR "less developed population" OR "less developed populations" OR "less developed world" OR "lesser developed country" OR "lesser developed countries" OR "lesser developed nation" OR "lesser developed nations" OR "lesser developed population" OR "lesser developed populations" OR "lesser developed world" OR "under developed country" OR "under developed countries" OR "under developed nation" OR "under developed nations" OR "under developed population" OR "under developed populations" OR "under developed world" OR "underdeveloped country" OR "underdeveloped countries" OR "underdeveloped nation" OR "underdeveloped nations" OR "underdeveloped population" OR "underdeveloped populations" OR "underdeveloped world" OR "middle income country" OR "middle income countries" OR "middle income nation" OR "middle income nations" OR "middle income population" OR "middle income populations" OR "low income

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

country" OR "low income countries" OR "low income nation" OR "low income nations" OR "low income population" OR "low income populations" OR "lower income country" OR "lower income countries" OR "lower income nation" OR "lower income nations" OR "lower income population" OR "lower income populations" OR "underserved country" OR "underserved countries" OR "underserved nation" OR "underserved nations" OR "underserved population" OR "underserved populations" OR "underserved world" OR "under served country" OR "under served countries" OR "under served nation" OR "under served nations" OR "under served population" OR "under served populations" OR "under served world" OR "deprived country" OR "deprived countries" OR "deprived nation" OR "deprived nations" OR "deprived population" OR "deprived populations" OR "deprived world" OR "poor country" OR "poor countries" OR "poor nation" OR "poor nations" OR "poor population" OR "poor populations" OR "poor world" OR "poorer country" OR "poorer countries" OR "poorer nation" OR "poorer nations" OR "poorer population" OR "poorer populations" OR "poorer world" OR "developing economy" OR "developing economies" OR "less developed economy" OR "less developed economies" OR "lesser developed economy" OR "lesser developed economies" OR "under developed economy" OR "under developed economies" OR "underdeveloped economy" OR "underdeveloped economies" OR "middle income economy" OR "middle income economies" OR "low income economy" OR "low income economies" OR "lower income economy" OR "lower income economies" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami country" OR "lami countries" OR "transitional country" OR "transitional countries" OR Search Africa OR Asia OR Caribbean OR West Indies OR South America OR Latin America OR Central America OR Afghanistan OR Albania OR Algeria OR Angola OR Antigua OR Barbuda OR Argentina OR Armenia OR Armenian OR Aruba OR Azerbaijan OR Bangladesh OR Benin OR Byelarus OR Byelorussian OR Belarus OR Belorussian OR Belorussia OR Belize OR Bhutan OR Bolivia OR Bosnia OR Herzegovina OR Hercegovina OR Botswana OR Brazil OR Bulgaria OR Burkina Faso OR Burkina Fasso OR Upper Volta OR Burundi OR Urundi OR Cambodia OR Khmer Republic OR Kampuchea OR Cameroon OR Cameroons OR Cameron OR Camerons OR Cape Verde OR Central African Republic OR Chad OR Chile OR China OR Colombia OR Comoros OR Comoro Islands OR Comores OR Mayotte OR Congo OR Zaire OR Costa Rica OR Cote d'Ivoire OR Ivory Coast OR Cuba OR Cyprus OR Czechoslovakia OR Czech Republic OR Slovakia OR Slovak Republic OR Djibouti OR French Somaliland OR Dominica OR Dominican Republic OR East Timor OR East Timur OR Timor Leste OR Ecuador OR Egypt OR United Arab Republic OR El Salvador OR Eritrea OR Estonia OR Ethiopia OR Fiji OR Gabon OR Gabonese Republic OR Gambia OR Gaza OR Georgia Republic OR Georgian Republic OR Ghana OR Gold Coast OR Greece OR Grenada OR Guatemala OR Guinea OR Guam OR Guiana OR Guyana OR Haiti OR Honduras OR India OR Maldives OR Indonesia OR Iran OR Iraq OR Isle of Man OR Jamaica OR Jordan OR Kazakhstan OR Kazakh OR Kenya OR Kiribati OR Korea OR Kosovo OR Kyrgyzstan OR Kirghizia OR Kyrgyz Republic OR Kirghiz OR Kirgizstan OR "Lao PDR" OR Laos OR Latvia OR Lebanon OR Lesotho OR Basutoland OR Liberia OR Libya OR Lithuania OR Macedonia OR Madagascar OR Malagasy Republic OR Malaysia OR Malaya OR Malay OR Sabah OR Sarawak OR Malawi OR Nyasaland OR Mali OR Malta OR Marshall Islands OR Mauritania OR Mauritius OR Agalega Islands OR Mexico OR Micronesia OR Middle East OR Moldova OR Moldovia OR Moldovian OR Mongolia OR Montenegro OR Morocco OR Ifni OR Mozambique OR Myanmar

OR Myanma OR Burma OR Namibia OR Nepal OR Netherlands Antilles OR New Caledonia OR Nicaragua OR Niger OR Nigeria OR Northern Mariana Islands OR Muscat OR Pakistan OR Palau OR Palestine OR Panama OR Paraguay OR Peru OR Philippines OR Philipines OR Phillipines OR Phillippines OR Puerto Rico OR Romania OR Rumania OR Roumania OR Russia OR Russian OR Rwanda OR Ruanda OR Saint Kitts OR St Kitts OR Nevis OR Saint Lucia OR St Lucia OR Saint Vincent OR St Vincent OR Grenadines OR Samoa OR Samoan Islands OR Navigator Island OR Navigator Islands OR Sao Tome OR Senegal OR Serbia OR Montenegro OR Seychelles OR Sierra Leone OR Slovenia OR Sri Lanka OR Ceylon OR Solomon Islands OR Somalia OR Sudan OR Suriname OR Surinam OR Swaziland OR Syria OR Tajikistan OR Tadzhikistan OR Tadjikistan OR Tadzhik OR Tanzania OR Thailand OR Togo OR Togolese Republic OR Tonga OR Tunisia OR Turkey OR Turkmenistan OR Turkmen OR Uganda OR Ukraine OR Uruguay OR USSR OR Soviet Union OR Union of Soviet Socialist Republics OR Uzbekistan OR Uzbek OR Vanuatu OR New Hebrides OR Venezuela OR Vietnam OR Viet Nam OR West Bank OR Yemen OR Yugoslavia OR Zambia OR Zimbabwe OR Rhodesia)

9. 7 OR 8
10. 9 AND 6 AND 3

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Appendix 4: LMIC Filters

#1 Search #2 or #3 or #4 or #5
#2 Search "developing country" OR "developing countries" OR "developing nation" OR "developing nations" OR "developing population" OR "developing populations" OR "developing world" OR "less developed country" OR "less developed countries" OR "less developed nation" OR "less developed nations" OR "less developed population" OR "less developed populations" OR "less developed world" OR "lesser developed country" OR "lesser developed countries" OR "lesser developed nation" OR "lesser developed nations" OR "lesser developed population" OR "lesser developed populations" OR "lesser developed world" OR "under developed country" OR "under developed countries" OR "under developed nation" OR "under developed nations" OR "under developed population" OR "under developed populations" OR "under developed world" OR "underdeveloped country" OR "underdeveloped countries" OR "underdeveloped nation" OR "underdeveloped nations" OR "underdeveloped population" OR "underdeveloped populations" OR "underdeveloped world" OR "middle income country" OR "middle income countries" OR "middle income nation" OR "middle income nations" OR "middle income population" OR "middle income populations" OR "low income country" OR "low income countries" OR "low income nation" OR "low income nations" OR "low income population" OR "low income populations" OR "lower income country" OR "lower income countries" OR "lower income nation" OR "lower income nations" OR "lower income population" OR "lower income populations" OR "underserved country" OR "underserved countries" OR "underserved nation" OR "underserved nations" OR "underserved population" OR "underserved populations" OR "underserved world" OR "under served country" OR "under served countries" OR "under served nation" OR "under served nations" OR "under served population" OR "under served populations" OR "under served world" OR "deprived country" OR "deprived countries" OR "deprived nation" OR "deprived nations" OR "deprived population" OR "deprived populations" OR "deprived world" OR "poor country" OR "poor countries" OR "poor nation" OR "poor nations" OR "poor population" OR "poor populations" OR "poor world" OR "poorer country" OR "poorer countries" OR "poorer nation" OR "poorer nations" OR "poorer population" OR "poorer populations" OR "poorer world" OR "developing economy" OR "developing economies" OR "less developed economy" OR "less developed economies" OR "lesser developed economy" OR "lesser developed economies" OR "under developed economy" OR "under developed economies" OR "underdeveloped economy" OR "underdeveloped economies" OR "middle income economy" OR "middle income economies" OR "low income economy" OR "low income economies" OR "lower income economy" OR "lower income economies" OR "low gdp" OR "low gnp" OR "low gross domestic" OR "low gross national" OR "lower gdp" OR "lower gnp" OR "lower gross domestic" OR "lower gross national" OR lmic OR lmics OR "third world" OR "lami country" OR "lami countries" OR "transitional country" OR "transitional countries"
#3 Search Africa OR Asia OR Caribbean OR West Indies OR South America OR Latin America OR Central America OR Afghanistan OR Albania OR Algeria OR Angola OR Antigua OR Barbuda OR Argentina OR Armenia OR Armenian OR Aruba OR Azerbaijan OR Bangladesh OR Benin OR Byelarus OR Byelorussian OR Belarus OR Belorussian OR Belorussia OR Belize OR Bhutan OR Bolivia OR Bosnia OR Herzegovina OR Hercegovina OR Botswana OR Brazil OR Bulgaria OR Burkina Faso OR Burkina Fasso OR Upper Volta OR Burundi OR Urundi OR Cambodia OR Khmer Republic OR Kampuchea OR Cameroon OR Cameroons OR Cameron OR Camerons OR Cape Verde OR Central African Republic OR Chad OR Chile OR China OR Colombia OR Comoros OR Comoro Islands OR Comores OR Mayotte OR Congo OR Zaire OR Costa Rica OR Cote d'Ivoire OR Ivory Coast OR Cuba OR Cyprus OR Czechoslovakia

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

OR Czech Republic OR Slovakia OR Slovak Republic OR Djibouti OR French Somaliland OR Dominica OR Dominican Republic OR East Timor OR East Timur OR Timor Leste OR Ecuador OR Egypt OR United Arab Republic OR El Salvador OR Eritrea OR Estonia OR Ethiopia OR Fiji OR Gabon OR Gabonese Republic OR Gambia OR Gaza OR Georgia Republic OR Georgian Republic OR Ghana OR Gold Coast OR Greece OR Grenada OR Guatemala OR Guinea OR Guam OR Guiana OR Guyana OR Haiti OR Honduras OR India OR Maldives OR Indonesia OR Iran OR Iraq OR Isle of Man OR Jamaica OR Jordan OR Kazakhstan OR Kazakh OR Kenya OR Kiribati OR Korea OR Kosovo OR Kyrgyzstan OR Kirghizia OR Kyrgyz Republic OR Kirghiz OR Kirgizstan OR "Lao PDR" OR Laos OR Latvia OR Lebanon OR Lesotho OR Basutoland OR Liberia OR Libya OR Lithuania

#4 Search Macedonia OR Madagascar OR Malagasy Republic OR Malaysia OR Malaya OR Malay OR Sabah OR Sarawak OR Malawi OR Nyasaland OR Mali OR Malta OR Marshall Islands OR Mauritania OR Mauritius OR Agalega Islands OR Mexico OR Micronesia OR Middle East OR Moldova OR Moldovia OR Moldovian OR Mongolia OR Montenegro OR Morocco OR Ifni OR Mozambique OR Myanmar OR Myanma OR Burma OR Namibia OR Nepal OR Netherlands Antilles OR New Caledonia OR Nicaragua OR Niger OR Nigeria OR Northern Mariana Islands OR Muscat OR Pakistan OR Palau OR Palestine OR Panama OR Paraguay OR Peru OR Philippines OR Philipines OR Phillipines OR Phillippines OR Puerto Rico OR Romania OR Rumania OR Roumania OR Russia OR Russian OR Rwanda OR Ruanda OR Saint Kitts OR St Kitts OR Nevis OR Saint Lucia OR St Lucia OR Saint Vincent OR St Vincent OR Grenadines OR Samoa OR Samoan Islands OR Navigator Island OR Navigator Islands OR Sao Tome OR Senegal OR Serbia OR Montenegro OR Seychelles OR Sierra Leone OR Slovenia OR Sri Lanka OR Ceylon OR Solomon Islands OR Somalia OR Sudan OR Suriname OR Surinam OR Swaziland OR Syria OR Tajikistan OR Tadzhikistan OR Tadjikistan OR Tadzhik OR Tanzania OR Thailand OR Togo OR Togolese Republic OR Tonga OR Tunisia OR Turkey OR Turkmenistan OR Turkmen OR Uganda OR Ukraine OR Uruguay OR USSR OR Soviet Union OR Union of Soviet Socialist Republics OR Uzbekistan OR Uzbek OR Vanuatu OR New Hebrides OR Venezuela OR Vietnam OR Viet Nam OR West Bank OR Yemen OR Yugoslavia OR Zambia OR Zimbabwe OR Rhodesia

#5 Cook Islands OR Kiribati OR Niue OR Samoa OR Tokelau OR Tuvalu OR Fiji OR Vanuatu OR Nauru OR Marshall Islands OR Papua New Guinea OR Solomon Islands OR East Timor OR Indonesia OR Philippines OR Cambodia OR Laos OR Vietnam OR Maldives

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Appendix 5: Example EndNote Fields for Article Management

Endnote version 9

Custom field 1: ID
Custom field 2: Megan
Custom field 3: Cecile
Custom field 4: Trey
Custom field 5: Cathy
Custom field 6: Final Decision

Drop down menu for Custom field 2-4:

'include':	Clear include
'exclude':	Clear exclude
'order(unclear)':	Papers that need to be ordered to check whether it is an evaluation of a form of higher education provision in or involving studies from developing countries
'order(source)':	Papers need to be ordered to check for other potential sources. Bibliographic information from these papers will be screened for inclusion.
'background':	References that could be useful for writing the report (but should not be ordered at this stage)

Drop down menu for Custom field 6:

'include':	Clear include
'exclude':	Clear exclude
'order(unclear)':	Papers that need to be ordered to check whether it is an evaluation of a form of higher education provision in or involving studies from developing countries
'order(source)':	Papers need to be ordered to check for other potential sources. Bibliographic information from these papers will be screened for inclusion.
'background':	References that could be useful for writing the report (but should not be ordered at this stage)

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

Appendix 6: Examples of Included/Excluded Studies

To illustrate the search strategy, a study to be included in this review based on title and abstract screenings because it looks at specific forms of higher education provision and include relevant student outcome measures is:

- Raza, R. (2008). New Evidence on Outcomes from South Asian Distance Education Tertiary Institutions: Some Implications for Future Policy. *Compare: A Journal of Comparative Education, 38*(4), 483-500. Retrieved from ERIC database.

Abstract: To policy planners in developing countries open and distance learning (ODL), because of its cost and delivery characteristics, is and has been a very attractive option for delivering tertiary education. Yet we have very little evidence on outcomes and the system's effectiveness. Providing some of this evidence is the main contribution of this article. South Asian institutions are some of the oldest of this type and enrol a large number of students. New data from a number of ODL tertiary institutions in South Asia, gathered though a UK DFID funded project, are presented here. This data is some of the most comprehensive material gathered on the ODL experience and offers new comparative data with conventional tertiary programmes and, data on completion rates and pass rates. All this provides the basis to reach new conclusions and reaffirm old ones on where ODL tertiary institutions are most effectively able to deliver.

An example of a study to be excluded based on title and abstract screening because it does not measure student outcomes is:

- Stella, A., & Gnanam, A. (2005). Cross-Border Higher Education in India: False Understandings and True Overestimates. *Quality in Higher Education, 11*(3), 227-237. Retrieved from ERIC database.

Abstract: The ongoing debate about the (World Trade Organisation) General Agreement on Trade in Services (GATS) framework brings out conflicting views about cross-border education the world over. Between the enthusiastic views of trade promoters, at one end, and the sceptical reflections of academics with a traditional outlook, at the other, there are many different viewpoints. Academics who support the view that education should not be treated as a tradeable commodity argue that cross-border education should always have a revenue generation approach that would be to the disadvantage of developing countries. There are trade enthusiasts who are convinced that the commercialisation of higher education at the global level is unavoidable in the near future and that it is up to the countries to prepare themselves to benefit from the new opportunities of the global market. Sometimes strong criticism of these academics is based on false understandings. It is also true that the views of trade promoters might be equally wrong in some national contexts, based only on optimistic overestimations rather than on grounded realities. This paper explores these false understandings and overestimations that shape the arguments about cross-border education in the Indian context.

An example of a study to be excluded based on title and abstract screening because it is a collection of essays is:

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

- Deupree, J., M. P. Lenn, et al. (1997). Ambassadors of U.S. Higher Education: Quality Credit-Bearing Programs Abroad.

Abstract: This collection of essays presents a set of standards to be considered for use in the delivery of U.S. credit-abroad programs and is designed to serve as a primer for institutions considering the development of such standards. The essays include: (1) "Introduction: A Growing Trend in Educational Delivery" (John Deupree), which discusses the growth of foreign programs offered by American-based colleges and universities; (2) "Higher Education and the Global Market: The Quality Imperative" (Marjorie Peace Lenn), which examines the global context of such programs and the development of quality standards; (3) "Institutional Accreditation and the International Offering of Credit-Bearing Courses and Degree Programs" (Steven D. Crow), which reviews the role of accrediting agencies in monitoring foreign campuses and programs of American institutions; (4) "International Considerations in Program Accreditation" (John Maudlin-Jeronimo), which examines international accreditation initiatives; (5) "Case Study: Maintaining and Controlling Academic Standards at U.S. Branch Campuses in Japan" (Jared H. Dorn), which focuses on Southern Illinois University at Carbondale's campus in Niigata, Japan; (6) "Case Study: A Twinning Program in Malaysia: Lessons from the Field" (Charles Reafsnyder), which reports on the experiences of Indiana University in Malaysia; (7) "The Value of Standards Within the Home Institutional Setting" (John H. Yopp and Rhonda Vinson), which focuses on Southern Illinois University at Carbondale's international programs; (8) "A Voluntary Presentation of Standards for U.S. Institutions Offering Credit-Bearing Programs Abroad"; and (9) "Postlude: University Education Enters a Fourth Dimension" (Philip J. Palin), which examines the globalization of higher education. Two appendices provide lists of symposium participants and reference sources for international educational program standards. (MDM)

Such an article would be excluded from the review, but used to identify other possible sources.

The impact of different approaches to higher education provision in increasing access, quality, and completion for students in developing countries

telephone: +44 (0)20 7947 9556 email: info@ioe.ac.uk